

Criteria 2.2 Catering to Student diversity

2.2.1 The institution assesses the learning level of students and organises Special programmes to cater to the different learning needs of Students.



Strategies adopted for Slow and Advanced learners





**Academic Year
2024-2025**

Sushant || University

Steps undertaken for Slow Learners, School of Engineering & Technology	
1	Modified assessments: Modify assessments to meet the needs of slow learner students.
2	Formative assessments: Use frequent formative assessments to monitor progress.
3	Peer-to-peer learning: Pair students with peers who can offer support and guidance.
4	Targeted topics: Targeted instruction on selected topics is provided to accommodate learners who benefit from a more gradual learning approach.
5	Checklists: Create checklists to help students follow procedures
6	One-on-one mentorship: Individualized mentorship is provided to each learner requiring additional support, with the aim of enhancing their academic performance.
7	Practice problems: Offer practice problems with solutions to help students build confidence.

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Dr. H. K. G.

Steps undertaken for Advance Learners, School of Engineering & Technology	
1	Research Paper: Assign a research paper on a specific topic, requiring students to critically evaluate sources and present their findings.
2	Group Project: Assign a group project that requires students to work together to achieve a common goal.
3	Peer Review: Have students review and provide feedback on each other's work.
4	Internship: Arrange internship opportunities for students to apply theoretical knowledge in real-world settings.
5	Project-Based Learning: Assign projects that require students to apply theoretical knowledge to real-world problems.
6	Guest Lectures: Invite industry experts to share their experiences and insights with students.
7	Challenging Assignment: A challenging assignment has been designed for advanced learners to foster their academic and intellectual growth.

	9:10 - 10:00	10:05 - 10:55	11:00 - 11:50	11:55 - 12:45	12:45 - 13:25	13:25 - 14:15	14:20 - 15:10	15:15 - 16:05	16:10 - 17:00
Mo	D-301 Dr. Narender	D-301 Dr. Rinky Ahuja Introduction to programming	D-124 Dr. Narender Physics D-413B Mr. Rajan Bansal Engineering Graphics & Design	Group 1		D-413A Dr. Manimal a	D-301 Dr. Rinky Ahuja Remedial Class		
		D-301 Dr. Manimal a	D-413B Mr. Rajan Bansal Engineering Graphics & Design	Group 1		D-212 Dr. Rinky Ahuja Introduction to programming	D-301 Dr. Manimal a Remedial Class	D-301 Dr. Alpana Jijja Remedial Class	
		D-301 Mathematics-I	D-413B Mr. Rajan Bansal Engineering Graphics & Design	Group 1		D-301 Introduction to programming	D-305 Remedial Class		
Tu									
We	D-301 Dr. Somya Tiwari Environmental Studies	D-301 Dr. Narender Physics	D-413B Mr. Rajan Bansal Engineering Graphics & Design	Group 1		D-301 Dr. Manimal a	D-301 Dr. Narender Remedial Class		
			D-312C Dr. Rinky Ahuja Introduction to programming	Group 2					
Th	D-301 Dr. Narender Physics	D-301 Dr. Rinky Ahuja Introduction to programming	D-122 Dr. Alpana Jijja Python	Group 1		D-301 Dr. Somya Tiwari Remedial Class			
			D-413B Mr. Rajan Bansal Engineering Graphics & Design	Group 2					
Fr	D-301 Dr. Narender Physics	D-301 Dr. Somya Tiwari Environmental Studies	D-301 Dr. Manimal a	D-301 Mr. Rajan Bansal Engineering Graphics & Design		D-122 Dr. Rinky Ahuja Introduction to programming	D-301 Mr. Rajan Bansal Remedial Class		
						D-312B Dr. Alpana Jijja Python			

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Mo	D-322	D-322	D-322	D-322		D-312A	Group 1	D-305	
	Dr. Manimal a	Dr. Neha Gupta	Ms. Inderjeet Kaur	Dr. Rinky Ahuja		Dr. Alpana Jijja			
	Mathematics-I	Basics of Electronics and Electrical Engineering	Environmental Studies	Introduction to programming		A-005	Python	Group 2	Dr. Neha Gupta
Tu	D-305	D-305	D-305	D-305		A-005	Group 1	D-322	
	Dr. Manimal a	Dr. Somya Tiwari	Dr. Neha Gupta	Dr. Rinky Ahuja		Dr. Somya Tiwari			
	Mathematics-I	Workshop	Basics of Electronics and Electrical Engineering	Introduction to programming		D-321	Workshop	Group 2	Ms. Inderjeet Kaur
We	D-322		A-005	Group 1		D-305	D-312C	D-311	
	Dr. Manimal a		Dr. Somya Tiwari			Dr. Neha Gupta	Dr. Manimal a	Dr. Alpana Jijja	
	- Mathematics-I		D-124	Group 2		Basics of Electronics and Electrical Engineering	Remedial Class	Remedial Class	
Th	D-322	D-322	D-321	Group 1		D-322	D-322		
	Ms. Inderjeet Kaur	Dr. Manimal a	Dr. Neha Gupta	Basics of Electronics and Electrical Engineering		Dr. Neha Gupta	Dr. Rinky Ahuja		
	Environmental Studies	Mathematics-I	D-124	Group 2		Basics of Electronics and Electrical Engineering	Remedial Class		
Fr	D-322	D-322	D-124	Group 1		D-322	D-322		
	Introduction to programming	Dr. Rinky Ahuja	Dr. Rinky Ahuja	Introduction to programming		Dr. Manimal a	Dr. Somya Tiwari		
			A-005	Group 2		Mathematics-I	Remedial Class		

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Mo	D-305 Dr. Abha Communication in English	D-305 Dr. Mukta Computer Fundamentals				D-312B Ms. Meenakshi Gupta Introduction to Data Analytics Group 1	D-413A Mr. Antim Dev Mishra		
	D-405 Ms. Priyanka Pradhan New Age Marketing		D-312A Dr. Mukta Computer Fundamentals Group 1 D-108 (IT Lab) Dr. Alpana Jijja Group 2			D-322 Dr. Alpana Jijja Fundamentals of Programming	D-305 Mr. Antim Dev Mishra Introduction to Digital Electronics	D-311 Ms. Meenakshi Gupta Remedial Class	
Tu									
We	D-124 Dr. Mukta IT Workshop Group 1 D-321 Mr. Antim Dev Mishra Introduction to Digital Electronics Group 2		D-305 Ms. Meenakshi Gupta Introduction to Data Analytics Group 1 D-305 Dr. Mukta Computer Fundamentals Group 2			D-405 Ms. Priyanka Pradhan New Age Marketing			
Th		D-305 Dr. Alpana Jijja Fundamentals of Programming	D-221B Mr. Antim Dev Mishra Introduction to Digital Electronics Group 1 D-312A Ms. Meenakshi Gupta Introduction to Data Analytics Group 2			D-305 Ms. Meenakshi Gupta Introduction to Data Analytics Group 1 D-311 Dr. Mukta Remedial Class	D-311 Dr. Alpana Jijja Remedial Class		
Fr	D-122 Dr. Alpana Jijja Fundamentals of Programming Group 1 D-312A Dr. Mukta Computer Fundamentals Group 2		D-322 Dr. Alpana Jijja Fundamentals of Programming Group 1 D-305 Mr. Antim Dev Mishra Introduction to Digital Electronics Group 2			D-305 Dr. Abha Communication in English	D-311 Dr. Mukta Remedial Class		



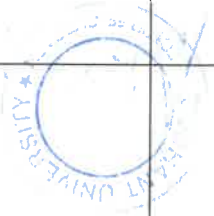
Open
Concept Of Engg. & Tech.
Ansal University
Gurgaon

[Signature]

Universe BitTech CSE - Full Stack Development (IVth Sem)

Ansal University, Sector 55, Golf Course Road, Gurgaon, Haryana - 122003

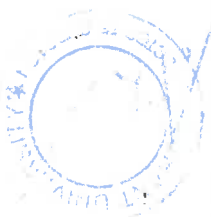
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Mo	Sherry Verma Database Systems	Manimala Discrete Mathematics	Antim Dev Mishra Computer Architecture and Organization	Rinky Ahuja Theory of Computation				Sherry Verma Remedial Class	
	D-322	D-212	C-203	D-122				D-311	
Tu	Manimala Discrete Mathematics	Rinky Ahuja Theory of Computation				Full Stack Training			
	D-305	D-212							
We	Sherry Verma Database Systems	Antim Dev Mishra Computer Architecture and Organization	Manimala Discrete Mathematics	Ashutosh Anand Constitution of India		Rinky Ahuja Theory of Computation	Rinky Ahuja Remedial Class		Manimala Remedial Class
	D-311	D-301	D-305	C-203		D-301	D-322		D-311
Th	D-124		Sherry Verma Database Systems	Antim Dev Mishra Computer Architecture and Organization			Antim Dev Mishra Remedial Class		
		Database Systems	D-212	D-322			D-311		
Fr						Full Stack Training			



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Mo	Mukta Fundamentals of Computer Networks	Kriti Sharma Software Engineering and project management	Pratik Yadav Social Media Security	Ashutosh Anand Constitution of India		D-320 Social Media Security		Feroz Ahmed Remedial Class	Kriti Sharma Remedial Class
	D-305	D-305	D-108 (IT Lab)	D-212				D-322	D-301
Tu	D-312A Emerging Technology Trends - 2		Feroz Ahmed Advanced Java	Kriti Sharma Software Engineering and project management		D-312C Fundamentals of Computer Networks			
	D-108 (IT Lab)	Pratik Yadav	C-203	D-122		Mukta			
We	Advanced Java		Fundamentals of Computer Networks	Mukta Software Engineering and project management		D-108 (IT Lab) Traning & Development			
		Feroz Ahmed	D-212	D-322					
Th	Mukta Fundamentals of Computer Networks	Feroz Ahmed Advanced Java	D-124 Software Engineering and project management		Feroz Ahmed Advanced Java	Traning & Development			
	D-212	D-212	Kriti Sharma		D-305				
Fr		Pratik Yadav Social Media Security	D-312B Social Media Security		D-320 Social Media Security				
		D-305	Pratik Yadav		Pratik Yadav				

S. no	Enrollment No.	Student name	Date: 31/10	Date: 4/11	Date: 7/11	Date: 11/11	Date: 18/11	Date: 25/11	Remarks (Outcome)
			Time: 2:20-3:10	Time: 2:20-3:10	Time: 2:20-3:10	Time: 2:20-3:10	Time: 2:20-3:10	Time: 2:20-3:10	
1	240BTCCSE091	ADITYA CHAUDHARY	Aditya	Aditya	Aditya	Aditya	Aditya	Aditya	
2	240BTCCSE081	ANKIT NAGAR		Ankit	Ankit	Ankit	Ankit	Ankit	
3	240BTCCSE038	BHAVIK SHANKAR	Blank		Blank	Blank	Blank	Blank	
4	240BTCCSE109	DEEPAK PHOGAT	Deepak	Deepak	Deepak	Deepak	Deepak	Deepak	
5	240BTCCSE022	DHRUV	Dhruv	Dhruv		Dhruv	Dhruv	Dhruv	
6	240BTCCSE065	HARSH SHARMA	Harsh	Harsh	Harsh	Harsh			
7	240BTCCSE026	HARSHIT CHILLAR	Harshit	Harshit	Harshit	Harshit	Harshit	Harshit	
8	240BTCCSE106	DISHANT		Dish	Dish	Dish	Dish	Dish	
9	240BTCCSE014	MOHIT	Mohit		Mohit		Mohit	Mohit	Done

Page 1 of 12



School of Engineering & Technology

INTRODUCTION TO PROGRAMMING USING C

ASSIGNMENT (Advance Learning)

- A1: Write a program to check whether a given number is perfect or not
- A2: Write a program to generate Fibonacci numbers less than equals to 'n'
- A3: Write a program to print "Hello" in X format
- A4: Write a program to read 3 numbers a, r, n. Generate AP, GP, HP
- A5: Given the number from 1 to 365, WAP to find which day of the year
- A6: To Print all ascii characters
- A7: To Print sizes of all basic data types of C
- A8: To print bits of signed and unsigned types for given number and check for 2's complement
- A9: Write a program to check whether a given number is odd or even and its signedness
- A10: Given a number n, write a program to print all primes smaller than or equal to n.
- A11: Write a program to find the median of two unsorted arrays
- A12: Implement your own c-type library (any four)
- A13: Write a program to generate Fibonacci numbers less than equals to 'n' using recursions
- A14: Write a program to find factorial for given number using recursive method and without using any other function than main function
- A15: Write a program read_int to read an integer
- A16: Write a program to generate a $n*n$ magic square (n is odd +ve no.)
- A17: To write a program to swap two variables by using pass by reference method
- A18: Write a program for pre and post increment and passing int pointer as their parameter
- A19: To find the average of n numbers by taking input in 3 different ways
- A20: Read n & n floats in a float array 'store'. Print the values in sorted order without modifying or copying 'store'
- A21: Implement calc_mean for all data types



OS second evaluation

1. Email *

2. program in execution is called

Mark only one oval.

- ☐ process
- ☐ instruction
- ☐ procedure
- ☐ function

1 point

3. interval between time of submission and completion of job is called ____

Mark only one oval.

- ☐ waiting time
- ☐ turn around time
- ☐ throughput time
- ☐ response time

1 point

4. scheduler that selects process from secondary storage is called ____

Mark only one oval.

- ☐ short term scheduler
- ☐ long term scheduler
- ☐ mid term scheduler
- ☐ Process scheduler

1 point

5. CPU scheduling in which CPU is allocated to process with least CPU burst time

Mark only one oval.

- ☐ Priority Scheduling
- ☐ Round robin Scheduling
- ☐ Shortest job Scheduling
- ☐ multilevel queue Scheduling

1 point

6. the term page traffic describes ____

Mark only one oval.

- ☐ number of pages in memory at a given instant
- ☐ number of pages required to be brought-in at a given page request
- ☐ Movement of page in and out of memory
- ☐ number of pages of executing program loaded in memory

1 point



To advance learners of BCA-IInd Sem.

Subject: OPERATING SYSTEM.

School of Engineering and Technology, Sushant University
Assignment for Advanced Learner– Odd Semester (July-Dec) 2024

Sem: III

Program: BCA
Course Name: Emerging Trends and Technology
Course Code: 21BCA0ET21P
Faculty: Shiksha Kumari

Course Outcomes

CO1: Customize setting, Pasting the data and apply basic mathematical formulae of MS Excel.

CO2: Introduce the advance function of Excel.

CO3: Utilizing various lookup functions for precise and accurate data retrieval and analysis.

CO4: Creating, customizing, and manipulating pivot tables and introduction to VBA for Automation.

Assignment:

Problem1:(CO1)

Create an excel sheet to print the multiplication tables from 1 to 5 with each table ending at its 10th multiplication limit (i.e., 1x10=10.. 5 X10=50).

Problem2:(CO1)

You are given the order details of a company in the below table.



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Order Details					
Order ID	Product	Unit Price	Quantity	Discount	Revenue
10259	Sr	8	10	0%	?
10259	Rodney's	20.0	1	0%	?
10259	Graved	20.0	1	0%	?
10259	Scenes	20.0	1	0%	?
10259	Jack's	7.7	16	25%	?
10259	New	7.7	16	25%	?
10259	England	7.7	16	25%	?
10259	Clam	7.7	16	25%	?
10259	Chowder	7.7	16	25%	?
10259	Ravoli	15.6	50	0%	?
10259	Angelo	15.6	50	0%	?
10259	Tane au	39.4	15	25%	?
10259	Sucre	39.4	15	25%	?
Total:					?

- Calculate the revenue and tax on the revenue for each product
- Calculate the net come of each product
- Calculate the total revenue of all products
- Calculate the total net in come of all product.

Problem3:(C01)

Calculate the Maximum mark, minimum mark, mean, median, standard deviation and variance for each subject.

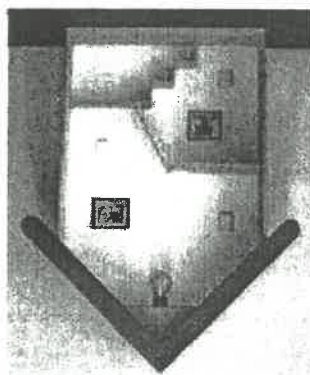
Microsoft Excel - Programs										
File Edit View Insert Format Tools Data Window Help										
Arl										
E19										
Student No	Student Name	Maths	Physics	Chemistry	Sum	Average	1	2	3	4
1	John	85	75	60	220	73.33333				
2	Xavier	100	78	85	263	87.66667				
3	Milton	88	72	75	235	78.33333				
4	Clara	90	95	80	265	88.33333				
5	Linda	95	82	99	276	92				
6										
7										
8	Maximum	100	95	99						
9	Minimum	85	72	60						
10	Mean	91.6	80.4	79.8						
11	Standard deviation	5.94138	8.961027	14.23728						
12	Variance	35.3	80.3	202.7						
13										

Problem4:(C02)

Consider the design of a light switch system that can turn the same light

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on or off in three different places. One switch (A) is installed in the hall on the first floor. Another switch (B) is located on the upstairs land and the third switch (C) is located on the ground floor as shown in the figure.



Each of the switches has 2 states (on and off). When an odd number of switches are on, the bulb remains off and in all other cases, the bulb glows. Design a truth table and find the various states of the bulb for various combinations of the 3 switches.

Problem5:(CO2)

Excel University provides Computers to its faculty members and the assets team performs a periodical stock taking to check if the same machine is still used by the faculty or it has been replaced by some other machine for some reason by the systems team. A machine could be changed if it is upgraded or it is repaired or if it is replaced by some other. A copy of the list resides in the assets office and it is checked with the list noted by the stock taker and those machines which do not match with the old list need to be updated with the new details. Prepare a data sheet according to your choice.

Problem6:(CO2)

Three sensors are attached to a printing device, with three alarms attached to the sensors. The first sensor, "A," detects if the device needs ink. The second sensor, "B," detects if the device needs repair. The third sensor, "C," detects if the device should jam. If the device jams or needs repair, the



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repair, alarm 1 sounds. If the device jams or is short on ink, alarm 2 sounds. If two or more problems occur at once, alarm 3 sounds. Design a truth table involving 3 sensors and 3 alarms and find out the various combinations of sensor outputs that result in the ringing of the 3 alarms.

Problem7:(CO3)

In this problem you are given the name, gender, attendance, assignment, midterm and final grades of five students. Find the total of the assessment marks. Students who pass need to have a total score greater than or equal to

Problem8:(CO3)

Consider a table containing the consignments of different fruits from different suppliers as shown in the figure below. You have the fruit names in column A, supplier's names in column B, and quantity in column C. Find out how many quantities of each fruit is received.

Problem9:(CO3)

Given the below worksheet write appropriate functions in excel to calculate first name, last name and email id.

Full Name	First Name	Last Name
Sok Vibol	Sok	Vibol
Chon Chamreoun	Chon	Chamreoun
Sao Virak	Sao	Virak
Seng Sambath	Seng	Sambath
Sok Pagna	Sok	Pagna
Cheng Sokun	Cheng	Sokun
Khom Channa	Khom	Channa
Meng Piseth	Meng	Piseth
Chea Soputhea	Chea	Soputhea
Mong Vannary	Mong	Vannary
Kim Solida	Kim	Solida
Srey Sokah	Srey	Sokah
Rithy Vansak	Rithy	Vansak

Problem10:(CO4)

- Given the table below,
1. Use lookup function to display student's name as Sok Pagan
 2. Use lookup function to find the computer score of the students named Khorn Channa and Cheng Sokun

Problem 11: (C04)

From the student table given below, fetch Steve's mark in English.

	A	B	C	D	E	F	G	H	I
1	Student Name	Andy	Dough	Steve	Glen	Mark	Symon	Tim	Jack
2	Marks in Science	64	75	82	65	65	42	56	78
3	Marks in Maths	87	52	68	32	72	60	61	49
4	Marks in English	79	40	61	46	66	71	56	89

Problem 12: (C04)

In the above exercise, Let us say you have a third column that has the category for each item as shown in the below figure. This time, instead of finding the price we'll find the category.

Item	Price	Category
1		
2	\$19.99	kitchen
3	\$5.49	Writing
4	\$25.99	Gifts
5	\$24.99	kitchen
6	\$35.99	Art
7	\$4.99	Gifts
8	\$15.49	Clothing
9	\$29.99	Clothing
10	\$8.99	kitchen
11	\$16.99	kitchen
12	\$12.99	kitchen
13	\$3.99	Gifts
14	\$9.99	Gifts
15	\$4.49	Gifts
16	\$5.99	Food

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Write a Java program to create an interface Sortable with a method sort() that sorts an array of integers in ascending order. Create two classes BubbleSort and SelectionSort that implement the Sortable interface and provide their own implementations of the sort() method.

Nishant
29/08/2007

// Sortable.java

// Declare the Sortable interface

interface Sortable {

// Declare the abstract method "sort" that classes implementing this interface must provide

void sort(int[] arr);

}

Copy

// BubbleSort.java

// Declare the BubbleSort class, which implements the Sortable interface

class BubbleSort implements Sortable {

// Implement the "sort" method required by the Sortable interface

public void sort(int[] arr) {

// Get the length of the array

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(9)



(Signature)



**Academic Year
2022-2023**

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Steps undertaken for Slow Learners, School of Engineering & Technology	
1	Modified assessments: Modify assessments to meet the needs of slow learner students.
2	Formative assessments: Use frequent formative assessments to monitor progress.
3	Peer-to-peer learning: Pair students with peers who can offer support and guidance.
4	Targeted topics: Targeted instruction on selected topics is provided to accommodate learners who benefit from a more gradual learning approach.
5	Checklists: Create checklists to help students follow procedures
6	One-on-one mentorship: Individualized mentorship is provided to each learner requiring additional support, with the aim of enhancing their academic performance.
7	Practice problems: Offer practice problems with solutions to help students build confidence.

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Dr. H. K. A.



Steps undertaken for Advance Learners, School of Engineering & Technology	
1	Research Paper: Assign a research paper on a specific topic, requiring students to critically evaluate sources and present their findings.
2	Group Project: Assign a group project that requires students to work together to achieve a common goal.
3	Peer Review: Have students review and provide feedback on each other's work.
4	Internship: Arrange internship opportunities for students to apply theoretical knowledge in real-world settings.
5	Project-Based Learning: Assign projects that require students to apply theoretical knowledge to real-world problems.
6	Guest Lectures: Invite industry experts to share their experiences and insights with students.
7	Challenging Assignment: A challenging assignment has been designed for advanced learners to foster their academic and intellectual growth.

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Teacher: Somya Tiwari
Urgaon, Haridwar – 122003

122003

Dean	aSc Timetables
School Of Engg. & Technology	
Susant University	
Sector 55, Gurugram	

Sr. No.	Student Name	Roll No.	No of Quizes taken	No of Assignments taken	Class Notes Given	Feedback given to Students	Parent's Feedback	Students Signature	Comments
1	Manu Malhotra	210BTE02MATH T							
2	Arish	210BTE02MATH T							
3	Kishan	210BTE02MATH T							
4	Kishan	210BTE02MATH T							
5	Kishan	210BTE02MATH T							
6	Kishan	210BTE02MATH T							
7	Kishan	210BTE02MATH T							
8	Kishan	210BTE02MATH T							
9	Kishan	210BTE02MATH T							
10	Kishan	210BTE02MATH T							
11	Kishan	210BTE02MATH T							
12	Kishan	210BTE02MATH T							
13	Kishan	210BTE02MATH T							
14	Kishan	210BTE02MATH T							
15	Kishan	210BTE02MATH T							
16	Kishan	210BTE02MATH T							
17	Kishan	210BTE02MATH T							
18	Kishan	210BTE02MATH T							
19	Kishan	210BTE02MATH T							
20	Kishan	210BTE02MATH T							
21	Kishan	210BTE02MATH T							
22	Kishan	210BTE02MATH T							
23	Kishan	210BTE02MATH T							
24	Kishan	210BTE02MATH T							
25	Kishan	210BTE02MATH T							
26	Kishan	210BTE02MATH T							
27	Kishan	210BTE02MATH T							
28	Kishan	210BTE02MATH T							

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28

Manu Malhotra



Sl. No	Student Name	Roll No	No of Quizes Taken	No of Assignments Taken	Class Notice Given	Feedback Given to Students	Students Signature	Comments
1	Vishal Kumar	028	1	1	Yes	Yes	P	
2	Kishan Singh	029	1	1	Yes	Yes	P	
3	Anshu Singh	026	1	1	Yes	Yes	P	
4	Yash Vard	053	1	1	Yes	Yes	P	
5	Manav Kumar	069	1	1	Yes	Yes	P	
6	Kaushik	093	1	1	Yes	Yes	P	
7	Pragya	028	1	1	Yes	Yes	P	
8	Aranya	062	1	1	Debar	Debar	P	
9	Nikhil Singh	064	1	1	Yes	Yes	P	
10	Nikhil Singh	010	1	1	Yes	Yes	P	
11	Kishu Kumar	029	1	1	Yes	Yes	P	

A. H. Ka

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C-11, 55, Gurugram

Date: 20/04/2023

Remedial Program - JAN-AUG 2023

Semester: V

Course Title: *Compile Design*

18 April

26 April

5ma

```
int n = arr.length;
```

```
// Outer loop for the number of passes
```

```
for (int i = 0; i < n - 1; i++) {
```

```
// Inner loop for comparisons and swaps
```

```
for (int j = 0; j < n - i - 1; j++) {
```

```
if (arr[j] > arr[j + 1]) {
```

```
// Swap arr[j] and arr[j+1]
```

```
int temp = arr[j];
```

```
arr[j] = arr[j + 1];
```

```
arr[j + 1] = temp;
```

```
}
```

```
}
```

```
}
```

```
}
```

```
}
```

```
Copy
```

```
// SelectionSort.java
```

```
// Declare the SelectionSort class, which implements the Sortable  
interface
```

```
class SelectionSort implements Sortable {
```

```
// Implement the "sort" method required by the Sortable interface
```

```
public void sort(int[] arr) {
```

```
// Get the length of the array
```

```
int n = arr.length;
```

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```
// Outer loop for the current element
for (int i = 0; i < n - 1; i++) {
    int minIndex = i;

    // Inner loop to find the minimum element in the unsorted
    part of the array
```

```
for (int j = i + 1; j < n; j++) {
    if (arr[j] < arr[minIndex]) {
        minIndex = j;
    }
}
```

```
// Swap arr[i] and arr[minIndex]
int temp = arr[i];
arr[i] = arr[minIndex];
arr[minIndex] = temp;
}
```

```
}
}
}
```

```
Copy
// Main.java
```

```
// Declare the Main class
public class Main {
```

```
public static void main(String[] args) {
```

```
// Create an array of integers to be sorted
```

```
int[] arr = {
```

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4,
2,
0,
3,
1,
6,
8
};

```
// Create an instance of BubbleSort and perform sorting
Sortable bubbleSort = new BubbleSort();

bubbleSort.sort(arr);

System.out.print("Bubble Sort: ");

printArray(arr);

// Create an instance of SelectionSort and perform sorting
Sortable selectionSort = new SelectionSort();

selectionSort.sort(arr);

System.out.print("Selection Sort: ");

printArray(arr);
}

// Method to print the elements of an array
private static void printArray(int[] arr) {
    for (int num : arr) {
```

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Output

```

System.out.println(num + " ");
}
System.out.println();
}
}

```

Bubble Sort: 0 1 2 3 4 6 8
Selection Sort: 0 1 2 3 4 6 8

Write a Java programming to create a banking system with three classes - Bank, Account, SavingsAccount, and CurrentAccount. The bank should have a list of accounts and methods for adding them. Accounts should be an interface with methods to deposit, withdraw, calculate interest, and view balances. SavingsAccount

```

1. import java.util.Scanner;
2. class BankDetails {
3.     private String accno;
4.     private String name;
5.     private String acc_type;
6.     private long balance;
7.     Scanner sc = new Scanner(System.in);
8.     //method to open new account
9.     public void openAccount() {
10.        System.out.print("Enter Account No: ");
11.        accno = sc.next();

```



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```

12. System.out.print("Enter Account type: ");
13. acc_type = sc.next();
14. System.out.print("Enter Name: ");
15. name = sc.next();
16. System.out.print("Enter Balance: ");
17. balance = sc.nextLong();
18. }
19. //method to display account details
20. public void showAccount() {
21. System.out.println("Name of account holder: " + name);
22. System.out.println("Account no.: " + accno);
23. System.out.println("Account type: " + acc_type);
24. System.out.println("Balance: " + balance);
25. }
26. //method to deposit money
27. public void deposit() {
28. long amt;
29. System.out.print("Enter the amount you want to deposit: ");
30. amt = sc.nextLong();
31. balance = balance + amt;
32. }
33. //method to withdraw money
34. public void withdrawal() {
35. long amt;
36. System.out.print("Enter the amount you want to withdraw: ");
37. amt = sc.nextLong();
38. if (balance >= amt) {
39. balance = balance - amt;
40. System.out.println("Balance after withdrawal: " + balance);
41. } else {
42. System.out.println("Your balance is less than " + amt + "\nTransaction failed.");
43. }
44. }

```

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```

45. //method to search an account number
46. public boolean search(String ac_no) {
47.     if (acno.equals(ac_no)) {
48.         showAccount();
49.         return (true);
50.     }
51.     return (false);
52. }
53. }
54. public class BankingApp {
55.     public static void main(String arg[]) {
56.         Scanner sc = new Scanner(System.in);
57.         //create initial accounts
58.         System.out.print("How many number of customers do you want to input? ");
59.         int n = sc.nextInt();
60.         BankDetails C[] = new BankDetails[n];
61.         for (int i = 0; i < C.length; i++) {
62.             C[i] = new BankDetails();
63.             C[i].openAccount();
64.         }
65.         // loop runs until number 5 is not pressed to exit
66.         int ch;
67.         do {
68.             System.out.println("\n ***Banking System Application***");
69.             System.out.println("1. Display all account details \n 2. Search by Account n
number \n 3. Deposit the amount \n 4. Withdraw the amount \n 5. Exit ");
70.             System.out.println("Enter your choice: ");
71.             ch = sc.nextInt();
72.             switch (ch) {
73.                 case 1:
74.                     for (int i = 0; i < C.length; i++) {
75.                         C[i].showAccount();
76.                     }

```



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```

77. break;
78. case 2:
79. System.out.print("Enter account no. you want to search: ");
80. String ac_no = sc.next();
81. boolean found = false;
82. for (int i = 0; i < C.length; i++) {
83.     found = C[i].search(ac_no);
84.     if (found) {
85.         break;
86.     }
87. }
88. if (found) {
89.     System.out.println("Search failed! Account doesn't exist..!!");
90. }
91. break;
92. case 3:
93. System.out.print("Enter Account no. : ");
94. ac_no = sc.next();
95. found = false;
96. for (int i = 0; i < C.length; i++) {
97.     found = C[i].search(ac_no);
98.     if (found) {
99.         C[i].deposit();
100.        break;
101.    }
102. }
103. if (found) {
104.    System.out.println("Search failed! Account doesn't exist..!!");
105. }
106. break;
107. case 4:
108. System.out.print("Enter Account No : ");
109. ac_no = sc.next();

```

Output

```

110. found = false;
111. for (int i = 0; i < C.length; i++) {
112.     found = C[i].search(ac_no);
113.     if (found) {
114.         C[i].withdrawal();
115.         break;
116.     }
117. }
118. if (ifound) {
119.     System.out.println("Search failed! Account doesn't exist.!!");
120. }
121. break;
122. case 5:
123.     System.out.println("See you soon...");
124.     break;
125. }
126. }
127. while (ch != 5);
128. }
129. }

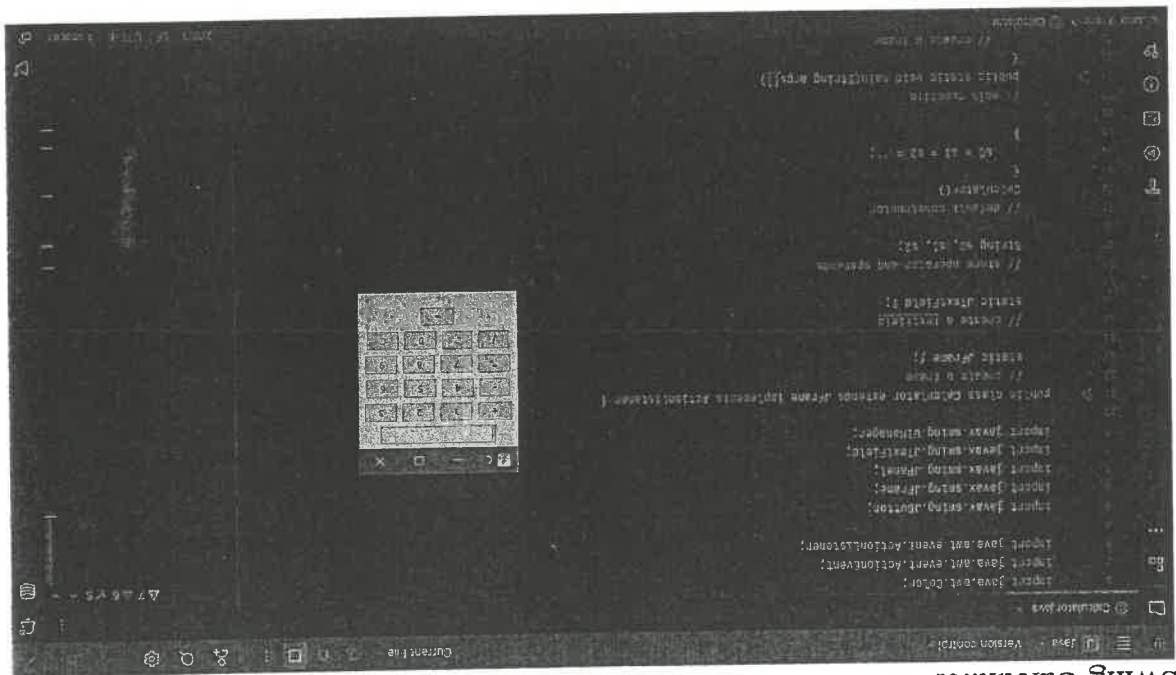
```



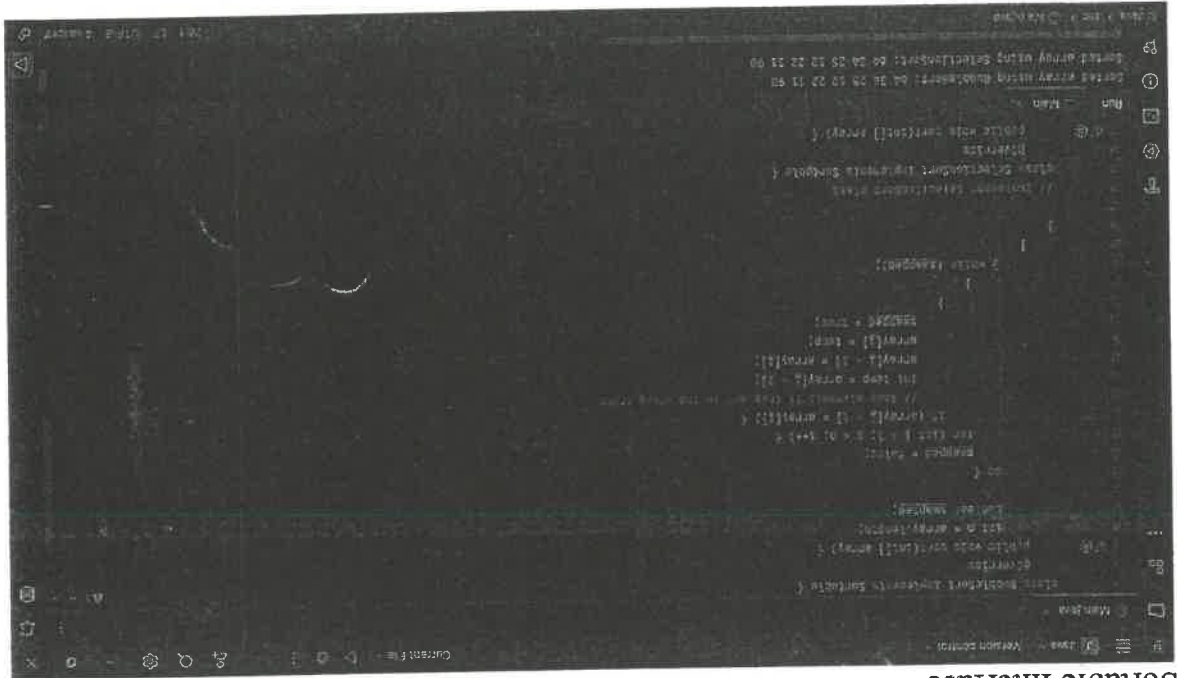
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15. Swing Calculator



16. Sortable Interface



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17. Banking System

```

import java.util.ArrayList;
import java.util.Scanner;

interface Account {
    void openAccount();
    void withdraw();
    void deposit();
    void interest();
}

class SavingsAccount implements Account {
    private double balance;
    private double interestRate;

    public SavingsAccount(double interestRate) {
        this.interestRate = interestRate;
    }

    void openAccount() {
        System.out.println("Enter the deposit amount: $1000");
        double deposit = 1000;
        System.out.println("Current balance: $1000.0");
        double interest = deposit * interestRate;
        System.out.println("Interest earned: $100.0");
        double newBalance = deposit + interest;
        System.out.println("New balance: $1100.0");
    }

    void withdraw() {
        System.out.println("Enter the withdrawal amount: $200");
        double withdrawal = 200;
        System.out.println("Current balance: $900.0");
        double newBalance = newBalance - withdrawal;
        System.out.println("New balance: $700.0");
    }

    void deposit() {
        System.out.println("Enter the deposit amount: $200");
        double deposit = 200;
        System.out.println("Current balance: $900.0");
        double newBalance = newBalance + deposit;
        System.out.println("New balance: $1100.0");
    }

    void interest() {
        System.out.println("Current balance: $1100.0");
        double interest = newBalance * interestRate;
        System.out.println("Interest earned: $110.0");
        double newBalance = newBalance + interest;
        System.out.println("New balance: $1210.0");
    }
}

public class Main {
    public static void main(String[] args) {
        SavingsAccount account = new SavingsAccount(0.1);
        account.openAccount();
        account.withdraw();
        account.deposit();
        account.interest();
    }
}

```



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Sector 55, Gurugram

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220 BCAA02

Output

Bubble Sort: 0 1 2 3 4 6 8
Selection Sort: 0 1 2 3 4 6 8

Write a Java programming to create a banking system with three classes - Bank, Account, SavingsAccount, and CurrentAccount. The bank should have a list of accounts and methods for adding them. Accounts should be an interface with methods to deposit, withdraw, calculate interest, and view balances. SavingsAccount

```
1. import java.util.Scanner;
2. class BankDetails {
3.     private String accno;
4.     private String name;
5.     private String acc_type;
6.     private long balance;
7.     Scanner sc = new Scanner(System.in);
8.     //method to open new account
9.     public void openAccount() {
10.        System.out.print("Enter Account No: ");
11.        accno = sc.next();
12.        System.out.print("Enter Account type: ");
13.        acc_type = sc.next();
14.        System.out.print("Enter Name: ");
15.        name = sc.next();
16.        System.out.print("Enter Balance: ");
17.        balance = sc.nextLong();
18.    }
```



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```

19. //method to display account details
20. public void showAccount() {
21.     System.out.println("Name of account holder: " + name);
22.     System.out.println("Account no.: " + accno);
23.     System.out.println("Account type: " + acc_type);
24.     System.out.println("Balance: " + balance);
25. }
26. //method to deposit money
27. public void deposit() {
28.     long amt;
29.     System.out.println("Enter the amount you want to deposit: ");
30.     amt = sc.nextLong();
31.     balance = balance + amt;
32. }
33. //method to withdraw money
34. public void withdraw() {
35.     long amt;
36.     System.out.println("Enter the amount you want to withdraw: ");
37.     amt = sc.nextLong();
38.     if (balance >= amt) {
39.         balance = balance - amt;
40.         System.out.println("Balance after withdrawal: " + balance);
41.     } else {
42.         System.out.println("Your balance is less than " + amt + "\tTransaction failed.");
43.     }
44. }
45. //method to search an account number
46. public boolean search(String acc_no) {
47.     if (accno.equals(acc_no)) {
48.         showAccount();
49.         return (true);
50.     }
51.     return (false);

```

W

```

52. }
53. }
54. public class BankingApp {
55.     public static void main(String arg[]) {
56.         Scanner sc = new Scanner(System.in);
57.         //create initial accounts
58.         System.out.print("How many number of customers do you want to input? ");
59.         int n = sc.nextInt();
60.         BankDetails C[] = new BankDetails[n];
61.         for (int i = 0; i < C.length; i++) {
62.             C[i] = new BankDetails();
63.             C[i].openAccount();
64.         }
65.         // loop runs until number 5 is not pressed to exit
66.         int ch;
67.         do {
68.             System.out.println("\n ***Banking System Application***");
69.             System.out.println("1. Display all account details \n 2. Search by Account n
umber \n 3. Deposit the amount \n 4. Withdraw the amount \n 5. Exit ");
70.             System.out.println("Enter your choice: ");
71.             ch = sc.nextInt();
72.             switch (ch) {
73.                 case 1:
74.                     for (int i = 0; i < C.length; i++) {
75.                         C[i].showAccount();
76.                     }
77.                     break;
78.                 case 2:
79.                     System.out.print("Enter account no. you want to search: ");
80.                     String ac_no = sc.nextInt();
81.                     boolean found = false;
82.                     for (int i = 0; i < C.length; i++) {
83.                         found = C[i].search(ac_no);

```

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19

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```
84. if (found) {
85.     break;
86. }
87. }
88. if (!found) {
89.     System.out.println("Search failed! Account doesn't exist..!!");
90. }
91. break;
92. case 3:
93.     System.out.print("Enter Account no. : ");
94.     ac_no = sc.nextInt();
95.     found = false;
96.     for (int i = 0; i < C.length; i++) {
97.         found = C[i].search(ac_no);
98.         if (found) {
99.             C[i].deposit();
100.            break;
101.        }
102.    }
103.    if (!found) {
104.        System.out.println("Search failed! Account doesn't exist..!!");
105.    }
106.    break;
107. case 4:
108.        System.out.print("Enter Account No : ");
109.        ac_no = sc.nextInt();
110.        found = false;
111.        for (int i = 0; i < C.length; i++) {
112.            found = C[i].search(ac_no);
113.            if (found) {
114.                C[i].withdrawal();
115.                break;
116.            }
117.        }
```

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```
C:\Users\Anurati\Desktop\labdemo\java BankingApp.java
C:\Users\Anurati\Desktop\labdemo\java BankingApp
How many number of customers do you want to input? 2
Enter Account No: 111
Enter Account type: Savings
Enter Name: Raman
Enter Balance: 56900
Enter Account No: 121
Enter Account type: Current
Enter Name: Piyush
Enter Balance: 20000
***Banking Application System***
1. Display all account details
2. Search by Account number
3. Deposit the amount
4. Withdraw the amount
5. Exit
Enter your choice:
1
Name of account holder: Raman
Account no.: 111
Account type: Savings
Balance: 56900
Name of account holder: Piyush
Account no.: 121
Account type: Current
Balance: 20000
```

Output

```
117. }
118. if (ifound) {
119.     System.out.println("Search failed! Account doesn't exist..!!");
120. }
121. break;
122. case 5:
123.     System.out.println("See you soon...");
124.     break;
125. }
126. }
127. while (ch != 5);
128. }
129. }
```

2 Data points have negative residual *

- ☒ if they are below the regression line
- ☐ if they are above the regression line
- ☐ if the regression line actually passes through the point
- ☐ None of the above

3. Real-Time decisions, Game AI, Learning Tasks, Skill acquisition, and Robot Navigation are

applications of _____

- ☒ Reinforcement Learning
- ☐ Supervised Learning: Classification
- ☐ Unsupervised Learning: Regression
- ☐ None of the above

4 Which of the followings are most widely used metrics and tools to assess a classification model?

- ☒ Confusion matrix
- ☐ Cost-sensitive accuracy
- ☐ Area under the ROC curve
- ☐ All of the above



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5 What is the application of machine learning methods to a large database called? *

- ☒ Data mining
- ☐ Internet of things
- ☐ Artificial intelligence
- ☐ Big data computing

6 Identify the kind of learning algorithm for "facial identities for facial expressions". *

- ☐ Prediction
- ☐ Generating patterns
- ☒ Recognition Patterns
- ☐ Recognizing anomalies

7 Identify the type of learning in which labeled training data is used. *

- ☐ Reinforcement learning
- ☐ Unsupervised learning
- ☒ Supervised learning
- ☐ Semi unsupervised learning



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8 What kind of table compares classifications predicted by the model with the actual class labels?

- ☐ Residual plot
- ☐ Prediction plot
- ☐ Chaos table
- ☒ Confusion Matrix

9 Who is the father of machine learning?

- ☒ Geoffrey Everest Hinton
- ☐ Geoffrey Chaucer
- ☐ Geoffrey Hill
- ☐ None of the Above

10 _____ algorithms enable the computers to learn from data, and even improve themselves, without being explicitly programmed.

- ☐ Deep Learning
- ☐ Artificial Intelligence
- ☒ Machine Learning
- ☐ None of the Above



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11 What is the output of training process in machine learning?

*

- ☐ Accuracy
- ☒ Machine learning model
- ☐ Machine learning algorithm
- ☐ None of the Above

12 Identify the successful applications of Machine Learning. *

- ☐ Learning to recognize spoken words
- ☐ Learning to drive an autonomous vehicle
- ☐ Learning to classify new astronomical structures
- ☒ All of the Above

13. The most common issue when using Machine Learning is _____

*

- ☒ Poor Data Quality
- ☐ Inadequate Infrastructure
- ☐ Lack of skilled resources
- ☐ None of the Above



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14. Identify the difficulties with the k-nearest neighbor algorithm. *

- ☐ Curse of dimensionality
- ☐ Calculate the distance of the test case from all training cases
- ☒ Both (A) and (B)
- ☐ None of the Above

15. Which of the following will be true about k in K-Nearest Neighbor in terms of Bias? *

- ☐ When you decrease the k the bias will be increases
- ☒ When you increase the k the bias will be increases
- ☐ Both (A) and (B)
- ☐ None of the Above

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Remedial Assignment – Odd Sem 2023

Program: B.Tech
Course Name: Theory of Computation
Faculty: Dr. Rinky Abuja
Submission Deadline: 5-12-23
Sem: V
Course Code: 15BCS-0TC31T
Maximum Marks: 20

Course Outcomes

- CO1: Construct finite state machines and the equivalent regular expressions.
CO2: Apply pumping lemma to prove the language is not regular and construct minimum states finite automata.
CO3: Convert context-free grammar in reduced grammar and normal forms.
CO4: Construct pushdown automata and the equivalent context free grammars.
CO5: Design Turing machines and Prove Halting problem and PCP are undecidable.

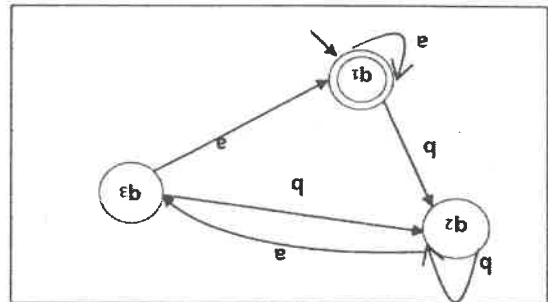
Assignment:

Q.1(CO1) Conversion of any Mealy machine to Moore machine.

OR

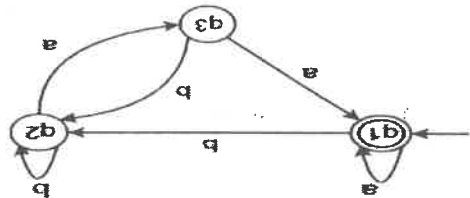
Q.2 (CO1) Convert any Moore machine into its equivalent Mealy machine.

Q.3 (CO2) Find regular expression for the following DFA using Arden's Theorem-



OR

Q.4 (CO2) Find regular expression for the following DFA using Arden's Theorem-



ambiguous
S->aSbs|Ss|ε

OR

Q.5 (CO3) Define ambiguous grammar. Show that the following grammar is

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Q.6

Q.7

Q.6 (CO3) Convert the following CFG to CNF(Chomsky normal form):

$S \rightarrow ASB$

$A \rightarrow aAS|a|e$

$B \rightarrow SbS|A|bb$

Q.7(CO4) Find out whether the language $L = \{x^n y^n z^n \mid n \geq 1\}$ is context free or not using Pumping Lemma.

OR

Q.8 (CO4) Design a PDA that accepts $L = \{w w^R \mid w = (a+b)^*\}$

OR

Q.9 (CO5) Discuss the Chomsky hierarchy of languages with example.

Q.10 (CO5) Discuss about an undecidable problem? Does the Post correspondence problem with two lists $x=(001,0011,11,101)$ and $y=(01,1111,111,010)$ has a solution?

School of Engineering & Technology, Sushant University

Course Title: Theory Of Computation

Semester: V

Course Code: 15BCS-0TC31T

Course Faculty: Dr Rinky Ahuja

Programme: B.Tech

Sir/Madam,

Following students mentioned in the list are identified as Advanced learner based on guidelines issued by IQAC after second assessment (declaration of Mid-term marks).

S.No	Name of the student	Roll No
1	Harsh Kedia	210BTCSEPF006
2	Krishna Singhal	210BTCSEAM033
3	KshitiJ Gupta	210BTCSEAM012
4	Mayank Kaushik	210BTCSEAM038
5	Rishabh	210BTCSEAM023
6	Sahil Sharma	210BTCSEAM031
7	Sumit Kumar	210BTMEDM001
8	Yashvi Singh	210BTCSEAM011
9	Sadgi Jakhar	210BTCSEAM020

Signature of Course Coordinator/Faculty

[Handwritten Signature]

Programme Coordinator

Dean



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Sushant University
Sector 55, Gurugram

Program: B.Tech
Course Name: Theory of Computation
Faculty: Dr Rinky Ahuja
Submission Deadline: 28-11-23
Sem: V
Course Code: 15BCS-0TC31T
Maximum Marks: 10

Course Outcomes

- CO1: Construct finite state machines and the equivalent regular expressions.**
- CO2: Apply pumping lemma to prove the language is not regular and construct minimum states finite automata.**
- CO3: Convert context-free grammar in reduced grammar and normal forms.**
- CO4: Construct pushdown automata and the equivalent context free grammars.**
- CO5: Design Turing machines and Prove Halting problem and PCP are undecidable.**

Assignment:

- Q.1(CO1,5) Discuss the working of Vending Machine using Deterministic Finite Automata and draw its state diagram as well.**
- Q.2(CO1,5) Discuss any one game whose modeling involves the use of DFA. Explain it using the State Diagram.**

(Signature)

(Signature)



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Sect. 55, Gurgaon

**Theory Of Computation
Assignment**

**Submitted by
Aaditya gupta
Roll no: 210BTCSEAM030**

**Course code- 15BCS-0TC31T
Year- 2023**



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**Dean for
School of Mgt. & Technology
Sushant University
Sect. 55, Gurugram**



Vending Machines using ToC

Vending Machines are machines installed in a city on the side of roads at specific intervals. Citizens can insert money into these machines and get the selected drinks and snacks automatically and the return change was provided by the machine as well. Such machines are very popular in Japan.

The working of Vending Machine can be designed using Deterministic Finite Automata (DFA) in ToC.

The states of Deterministic Finite Automata (DFA) for Vending Machines include:

$Q = \{\$0.00, \$0.25, \$0.50, \$0.75, \$1.00, \$1.25, \$1.50, \$1.75, \$2.00\}$ (states)

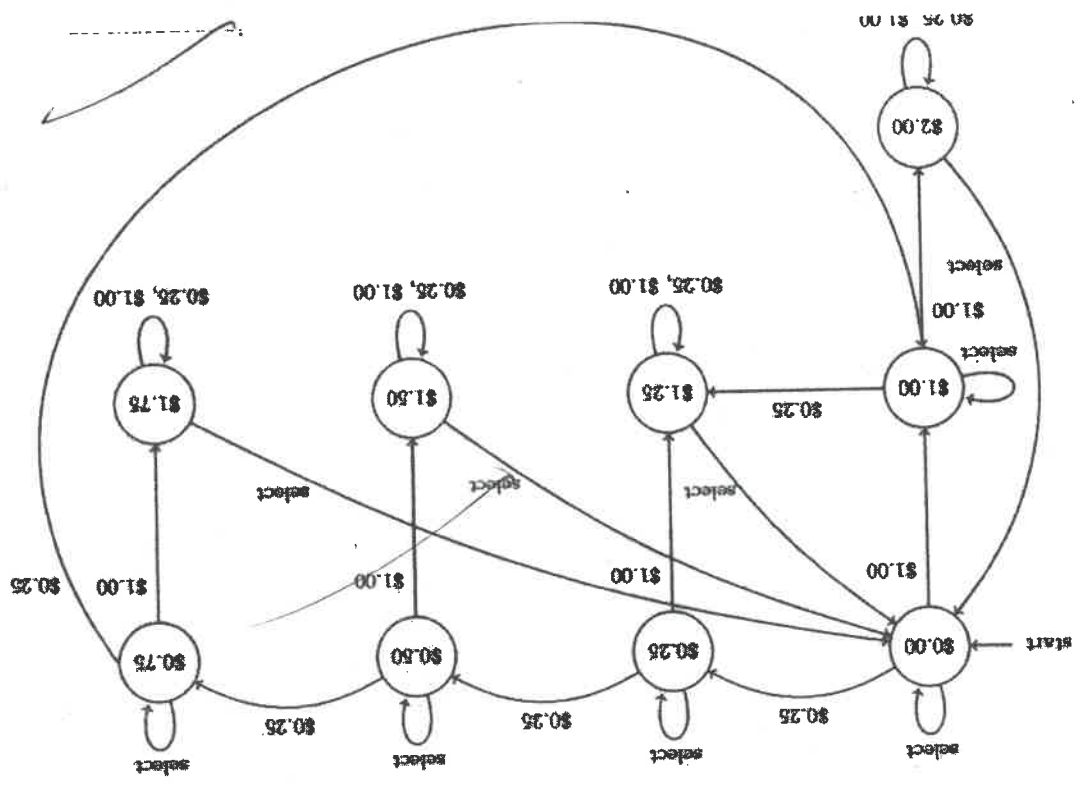
$Z = \{\$0.25, \$1.00, \text{select}\}$ is the alphabet

$q_0 = \$0.00$ is the start state

$F = \square$ is the set of accept states

The transition function is defined by the state diagram.

The state diagram of Vending Machine is as follows:



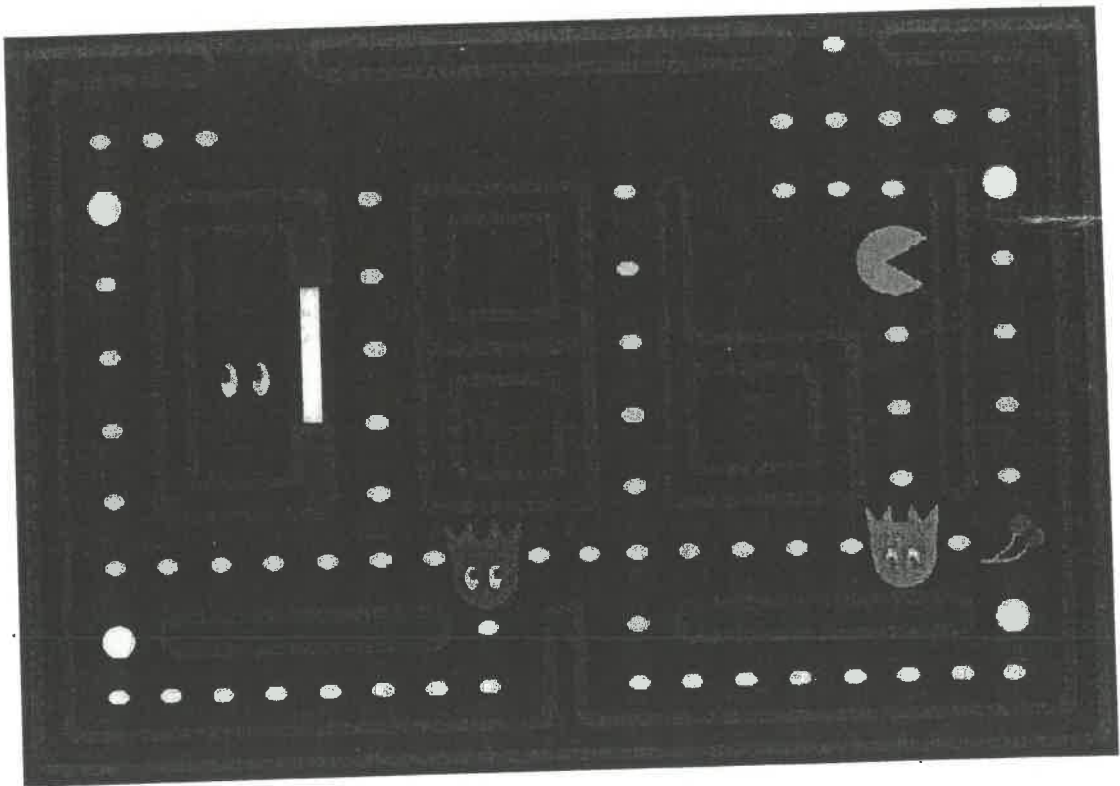
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Sushant University
Sector 55, Gurugram



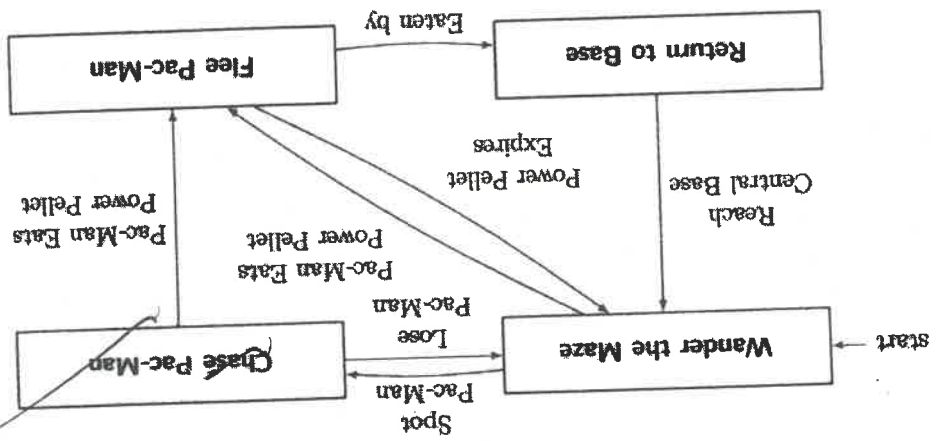
Pac Man game using ToC

Pac Man is a popular game in the early 1990s. Modeling the game involves ideas of DFA (Deterministic Finite Automata). Similar designing all games involve DFA so that you can create a games with a large number of possible levels and situation starting for a few set of rules and stating states.

Following is a screenshot of the Pac Man game:



Following is the State-Diagram of a DFA for Pac Man Game:



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Assignment-1, September 2023
Data Structures : 15BTC-IDS21T

Semester : 3

Course : B. Tech
Marks: 10

Question 1 (CO1) : Convert the following expressions into prefix and postfix ?

A. Infix Expression: $(AX + (B * C))$;

Postfix Expression:

Prefix Expression:

B. Infix Expression: $((AX + (B * CY)) / (D - E))$;

Postfix Expression:

Prefix Expression:

C. Infix Expression: $((A + B) * (C +$

$E))$; Postfix Expression:

Prefix Expression:

D. Infix Expression: $(AX * (BX * (((CY + AY) + BY) * CX)))$;

Postfix Expression:

Prefix Expression:

E. Infix Expression: $((H * (((A + ((B + C) * D)) * F) * G) * E)) + J$;

Postfix Expression:

Prefix Expression:



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 Sector-55, Gurgaon

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Date: 23/1/2023

ASSIGNMENT
Date Structure

Jai Shiv Yadav
220B7CCE052

Q Find out the prefix and postfix expression for the following

$$\begin{aligned} \text{Infix} &= (C(AX + (BX * CY)) / (DE)) \\ \text{Postfix} &= AX BY * + DE / \\ \text{Prefix} &= / + AX * BCY DE \end{aligned}$$
$$\text{Postfix} = A \times B C Y * + D E \uparrow$$

~~Amf x post x~~

Original string: $(C(A + (B * (C * D))) / (D * E))$

[illegible]

Dr. S. S. Gururaj
 Dean
 (C) (C)



Prefix $A + B + C$

Prefix $A + B + C + D$

Prefix $A + B + C + D + E$

C	C	CD
C	C	CD
A	C/A	CD
+	C/A	CD
2	C/C	CD
B	C/C	CD
*	C/C	CD
C	C/C	CD
Y	C/C	CD
C	C/C	CD
C	C/C	CD
1	C/C	CD
C	C/C	CD
D	C/C	CD
C	C/C	CD
C	C/C	CD
C	C/C	CD

Expression
 Stack
 Prefix

Reverse String: $(CDE)(C/A + B) + (A)$

Index to prefix



Anti to beta

1.37 ± 0.14

$$A \cdot B + C \cdot D$$

AR + CE

$7 + 8 + 1$

AB+C

7-13+

7. 20

ARF

HB

4

th

Postfix

Attack

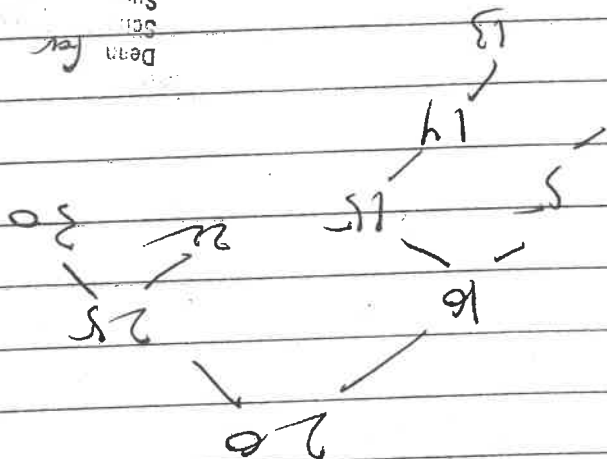
Expression

Original thing

Gift to self

Spinal

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Algo

$LC + RA + *$
 $LC + RA +$
 $LC + RA +$
 $LC + RA$
 $LC + B$
 $LC + B$
 $LC +$
 $LC +$
 $LC +$
 LC
 LC

$LC + RA + *$
 $LC + RA +$
 $LC + RA$
 $LC + B$
 $LC + B$
 $LC +$
 $LC +$
 $LC +$
 LC
 LC

$LC + RA + *$
 $LC + RA +$
 $LC + RA$
 $LC + B$
 $LC + B$
 $LC +$
 $LC +$
 $LC +$
 LC
 LC

Prefix

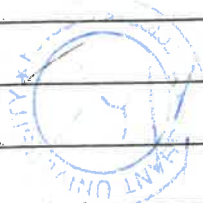
Stack

Expression

Logic to Prefix

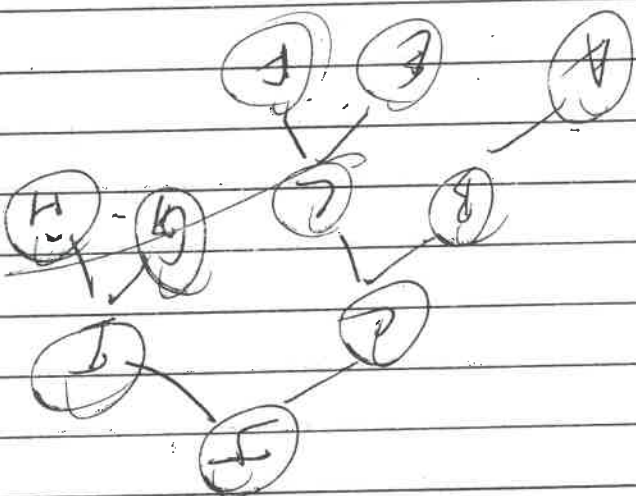
Date

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Cortland
Cortland, NY 13845



~~28/11/23~~

Post order = [A B C D E F G H I J]



Inorder = A B C D E F G H I J
Preorder = J C B A D E F I G H

Q3 The Binary tree has following Inorder and Preorder

**School of Engineering and Technology,
Sushant University**

Assignment – For Slow Learners - 2023

**Program: BTech
Course Name: Physics
Faculty: Dr. Isha Saini**

**Sem: I
Course Code: 23BTC-0PY11C**

Course Outcomes

CO1: Demonstrate knowledge of the physical principles that describe famous Einstein's theory of relativity and quantum physics.
CO2: Explain working principles of advanced topics like lasers, optical fibers and their application in modern communication system.
CO3: Solve engineering problems on electromagnetism
CO4: Discover the underlying concepts and properties of semiconducting materials and how the world changes at nano scale level.

CO1 1. Calculate the de Broglie wavelength of an alpha particle accelerated through a potential difference of 200 volts?
CO1 2. Derive Schrodinger equation.

CO1 3. Calculate the mass and speed of an electron having kinetic energy 1.5 MeV.
CO 2 4. Discuss He-Ne laser in detail.



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Assignment
Date: 10/10/23

Ques 1

$$I = \frac{V}{R_{eq}}$$

$$I = \frac{6.6 \times 10^{-3}}{1000} = 6.6 \times 10^{-6} A$$

$$V = \frac{Q}{C} = \frac{1.1 \times 10^{-6}}{1.1 \times 10^{-6}} = 1V$$

$$I = \frac{V}{R} = \frac{1}{1000} = 1 \times 10^{-3} A$$

Q2

$$\frac{dV}{dt} = \frac{1}{C} \frac{dQ}{dt} = \frac{1}{C} I$$

$$I = \frac{dQ}{dt} = \frac{d}{dt} \left(\frac{C V}{2} \right)$$

$$\frac{dV}{dt} = \frac{1}{C} \frac{dQ}{dt} = \frac{1}{C} I \rightarrow \text{Time dependent in same dimension}$$

* Solve the time independent eqn

$$I \frac{dV}{dt} = -\frac{1}{C} \frac{dQ}{dt} + V \frac{dQ}{dt} + Q \frac{dV}{dt}$$

$V(x,t) \rightarrow$ independent of time

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$$\psi(x,t) = A \exp\left[-\frac{2\pi i}{h}(Et - Px)\right]$$

$$\psi(x,t) = A \exp\left[-\frac{2\pi i}{h}(Et - Px)\right]$$

$$\psi = A \exp\left[-\frac{i}{\hbar}(Et - Px)\right]$$

$$(\psi)^2 = a^2 - b^2$$

In all experiments, we can detect only one is present or not we can never detect a part of it ψ is associated with a moving particle at a particular point x, y, z in space at a time t is related to the likely hood of finding the particle at time

ψ^2 probability
Square of ψ gives probability of finding the electron
 $\psi = a + ib$ (imaginary number)

Schrodinger's Equation (Time dependent)

$$\frac{d\psi}{dx} = f(t) \frac{d\psi}{dx} (x)$$

$$\psi(x,t) = \psi(x) \psi(t)$$

By method of separation of variables

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$$\frac{1}{2}mv^2 = 9.1 \times 10^{-31} \times 35.8 \times 10^{-31}$$

$$\frac{1}{2}mv^2 = 35.8 \times 10^{-31} \text{ kg}$$

$$m = 3.58 \times 10^{-30} \text{ kg}$$

$$m = 35.8 \times 10^{-31} \text{ kg}$$

$$m = 3.22 \times 10^{-13}$$

$$mc^2 = 3.22 \times 10^{-13}$$

$$mc^2 = (1.5 \times 10^6 \times 1.6 \times 10^{-19}) + (9.1 \times 10^{-31} \times 9 \times 10^8)$$

$$1.5 \text{ MeV} + mc^2 = mc^2$$

$$\text{Kinetic Energy} = mc^2 - mc^2$$

Ques Calculate the mass and speed of an electron having kinetic energy 1.5 MeV.

$$E^2 = p^2c^2 + m^2c^4$$

$$p^2 = \frac{E^2 - m^2c^4}{c^2}$$

$$\frac{\partial^2 \psi}{\partial x^2} = -\frac{E^2}{\hbar^2 c^2} \psi \exp\left[-\frac{i}{\hbar}(Et - Px)\right]$$

$$\frac{\partial^2 \psi}{\partial x^2} = -\frac{E^2}{\hbar^2 c^2} \psi \exp\left[-\frac{i}{\hbar}(Et - Px)\right]$$

Ans because it depends on two quantities position and momentum but we finding derivative of only position

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$$\left[\frac{1}{\sqrt{1-\frac{v^2}{c^2}}} \right]$$

$$\frac{1}{\sqrt{1-\frac{v^2}{c^2}}}$$

$$\frac{1}{\sqrt{1-\frac{v^2}{c^2}}} = \frac{1}{\sqrt{1-\frac{0.75^2}{1^2}}}$$

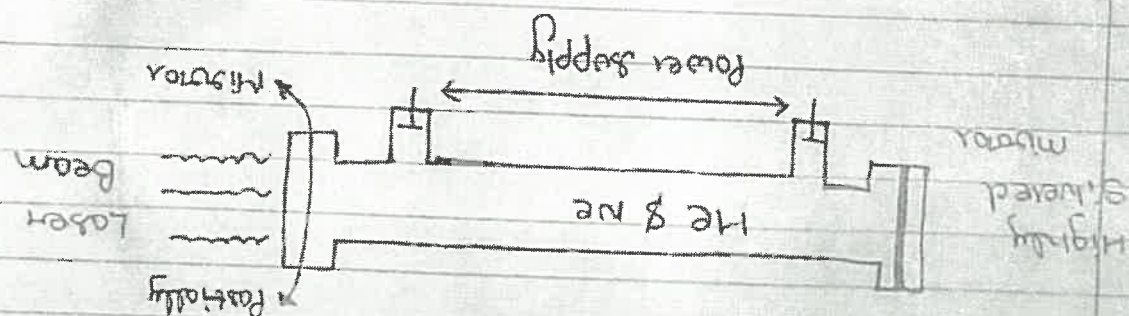
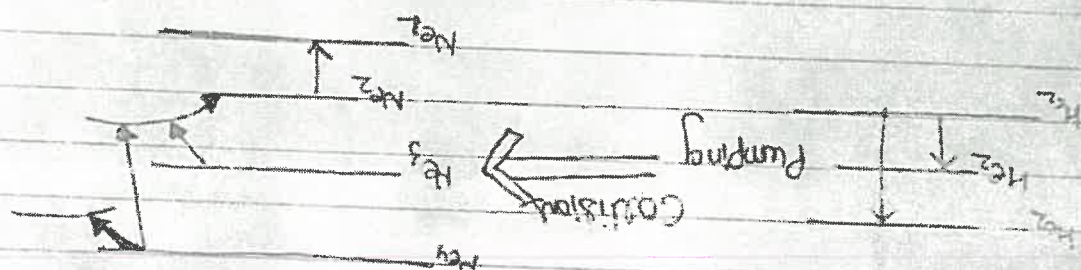
$$\frac{1}{\sqrt{1-\frac{v^2}{c^2}}} = \frac{1}{\sqrt{1-0.5625}}$$



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Due to collision of He atoms who have more probability of being excited, Ne atoms also get excited on collision & achieve population inversion. This inversion is continuously maintained due to the electric discharge & continuous laser beam is observed. The beam is highly monochromatic, unidirectional with narrow width.

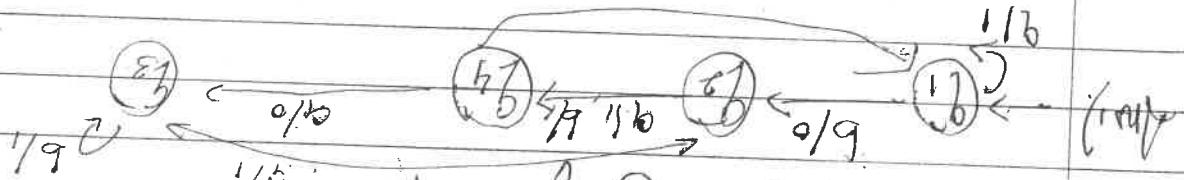


Helium-Neon Laser consists of a glass tube of length 10-100 cm & a narrow diameter of about 2-10 mm. The tube has mixture of He-Ne in 10:1 or 7:1 one end of the tube is highly silvered while other is partially silvered & are inserted in the tube to achieve population inversion.

Qus 5) Write Helium Neon Laser

Topic _____ Date _____

Name - Souvabh Tamwar
 Course - B.Tech 5th Sem
 Roll no. - 2103TCSA1004
 Subject - Theory of Computation



Transition table

	q_1	q_2	q_3	q_4	q_5
q_1	q_1	q_2	q_3	q_4	q_5
q_2	q_2	q_3	q_4	q_5	q_1
q_3	q_3	q_4	q_5	q_1	q_2
q_4	q_4	q_5	q_1	q_2	q_3
q_5	q_5	q_1	q_2	q_3	q_4

* q₁ has always 1 as output

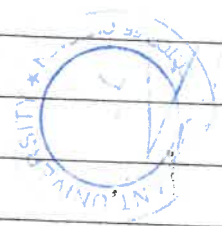
→ q₂ is having different output ∴ we assign two new states 1, 0 for output as 1, 0 for output as 0.

* q₃ same as q₂ → q₃ & q₂

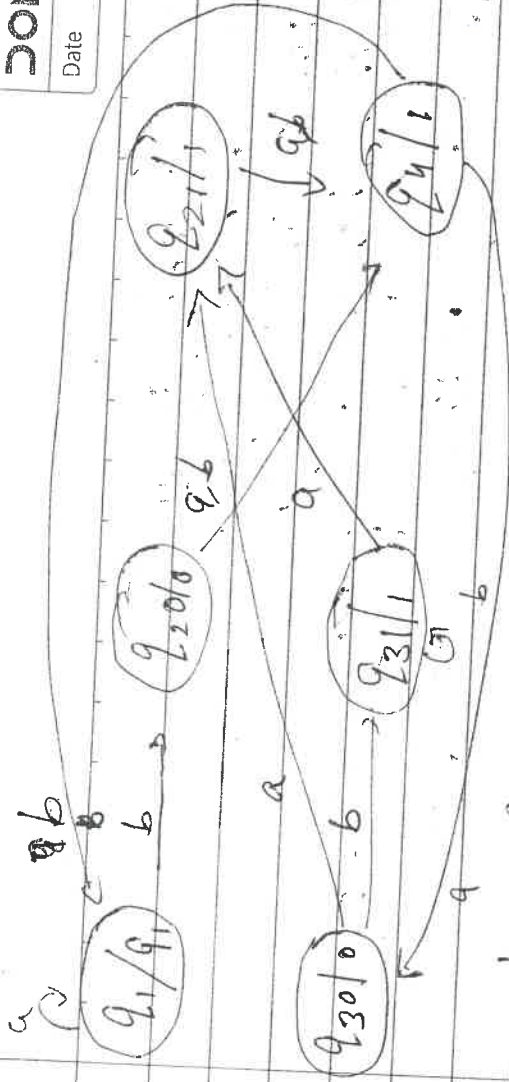
q₄ having only one output as 1

New transition table

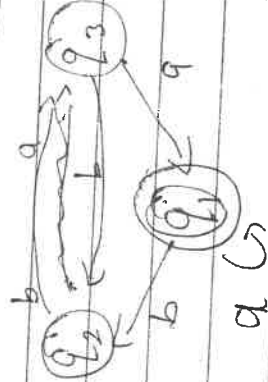
	q ₁	q ₂	q ₃	q ₄
q ₁	q ₁	q ₂	q ₂	q ₄
q ₂	q ₂	q ₃	q ₃	q ₄
q ₃	q ₃	q ₃	q ₃	q ₄
q ₄	q ₄	q ₄	q ₄	q ₄



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Ans 2)



$$q_1 = q_1 a + q_2 + q + \epsilon - ①$$

$$q_2 = q_1 b + q_2 b + q_3 b - ②$$

$$q_3 = q_2 a - ③$$

Ret Eq ③ in eq ②

$$q_2 = q_1 b + q_2 b + q_2 a$$

$$q_2 = q_1 b + q_2 (b + a)$$

$$R \cdot Q + RP \Rightarrow q_2 = q_1 b (b + a)$$

$$q_1 = q_1 a + q_2 a + \epsilon$$

$$q_1 = q_1 a + q_1 (b + a) + \epsilon$$

$$R \cdot R = RP + \epsilon$$

$$q_1 = (a + b)(b + a) + a \cdot a + \epsilon$$

Ans 3) $S \rightarrow ASB$

3 Remove unit production

$S \rightarrow S$
 $S \rightarrow S'$
 $B \rightarrow A$

Remove $S \rightarrow S$

$S \rightarrow A$
 $S \rightarrow ASB/ASB$
 $A \rightarrow aAs/aS/a$

$B \rightarrow SbS/bb/aAs/aS/a$

Removal of $S' \rightarrow S$

$S' \rightarrow AS/ASB/ASB$
 $S \rightarrow AS/ASB/ASB$
 $A \rightarrow aAs/aS/a$

$B \rightarrow SbS/bb/aAs/aS/a$

4 If RHS with more than two non terminal

$S \rightarrow ASB$

$S \rightarrow ASB$ replace BB with X

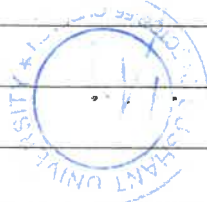
$S' \rightarrow AS/AS/ASB$

$A \rightarrow aAs/aS/a$

$B \rightarrow SbS/bb/aAs/aS/a$

$X \rightarrow SB$

steps 1/ $A \rightarrow aB$
 $A \rightarrow X$



$A \rightarrow aAs/aS$

$B \rightarrow SbS/aAs/ASB$

$S' \rightarrow AS/AS/ASB$

$S \rightarrow AS/AS/ASB$

$A \rightarrow XAS/XS/a$

$B \rightarrow SbS/bb/XAS/XS/a$

$X \rightarrow SB$

$X \rightarrow a$

$Z \rightarrow b$

Unit

(13)

Also bb violate CNF so remove it

$S' \rightarrow AS/AX/SB$
 $S \rightarrow AS/AX/SB$
 $A \rightarrow YAS/Y5/9$
 $B \rightarrow S2S/TT/YAS/X5/9$
 $X \rightarrow 9$
 $Z \rightarrow b$
 $T \rightarrow b$

again step 4

$A \rightarrow YAS$
 $B \rightarrow S2S/YAS$
 $S' \rightarrow AS/AX/SB$
 $S \rightarrow AS/AX/SB$
 $A \rightarrow YU/Y5/9$
 $B \rightarrow S V/TT/YD/Y5/9$
 $X \rightarrow SB$
 $Y \rightarrow 9$
 $Z \rightarrow b$
 $T \rightarrow b$
 $V \rightarrow AS$
 $V \rightarrow ZS$



$L2 \rightarrow S' Y2 (h \geq 1)3$
 Assume $L2$ is in CFL

$L2 \rightarrow Y2, Y2Y2, Y2Y2Y2, \dots$
 ACC to pumping lemma
 is in L then $L2 \rightarrow Y2$
 can be written as

if $n2$
 if $n2$ can't split into 5 parts
 if $n2$

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Type 0 -

- Ans) Acc. to Chomsky hierarchy grammars are divided into 4
- 1) Type 0 $\rightarrow$ unrestricted grammars
 - 2) Type 1 $\rightarrow$ context sensitive grammars
 - 3) Type 2 $\rightarrow$ context free grammars
 - 4) Type 3 $\rightarrow$ Regular grammars

$\rightarrow$ Concluding that the given language is not CFL
assumption initially that it is CFL
which is contradiction of taking the
Therefore uv^2w^2y & uv^3w^3y is not in



into
 uv^2w^2y & uv^3w^3y
 uv^2w^2y & uv^3w^3y

for all $i \geq 0$
 $uv^i w^i y$ is in L
 $uv^5 w^5 y$ & $uv^6 w^6 y$

ii) $|vwx| \leq n$

iii) $|vwx| \geq 1$
 uv^2w^2y , $v \rightarrow a$, $w \rightarrow y$, $y \rightarrow y$

2222222222
applied it into knowing
2222222222

Advanced web development

26-11-23

Assignment

Q1 create a HTML page with a table having suitable heading and perform rowspan and colspan. Also Apply the dashed and collapsed border properties, create varying size rows and columns, apply the border, padding, spacing properties and Align the first row fields to right.

Ans1

```

<!DOCTYPE html>
<html>
<head>

```

```

<style>

```

```

table {

```

```

border-collapse: collapse;

```

```

th, td {

```

```

border: 1px dashed black;

```

```

padding: 10px;

```

```

tr {

```

```

text-align: right;

```

```

}

```

```

</style>

```

```

</head>

```

```

</body>

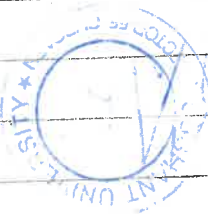
```

```

</table>

```

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SCHOOL OF ENGINEERING AND TECHNOLOGY- SUSHANT UNIVERSITY

Remedial Program - JAN AUG 2023

Semester : II

Course Title : Environmental Studies

Program : B.Tech

Course Code: EVS2111

Faculty- Dr. Monika Khurana

Sr. No.	Student Name	Rolling	No of Quizes taken	No of Assignments taken	Class Notes Given	Feedback given to students	Parent's Feedback	Students Signature	Comments
1	Dalish Khadunja	220BTCCSE136	1	1	yes	yes		<i>[Signature]</i>	
2	Deepanshu	220BTCCSE046	1	1	yes	yes		<i>[Signature]</i>	
3	Gokul	220BTCCSE041	1	1	yes	yes		<i>[Signature]</i>	
4	Mohit	220BTCCSE022	1	1	yes	yes		<i>[Signature]</i>	
5	Rana	220BTCCSE001	1	1	yes	yes		<i>[Signature]</i>	
6	Sami	220BTCCSE159	1	1	yes	yes		<i>[Signature]</i>	
7	Aishwarya Mohanty	220BTCCSE160	1	1	yes	yes		<i>[Signature]</i>	
8	Heshan Tyagi	220BTCCSE126	1	1	yes	yes		<i>[Signature]</i>	
9	Raghavender Sharma	220BTCCSE003	1	1	yes	yes		<i>[Signature]</i>	
10	Raj	220BTCCSE047	1	1	yes	yes		<i>[Signature]</i>	
12	Samarth Sharma	220BTCCSE048							<i>Absent</i>
13	Vikram Yadav	220BTCCSE079							<i>Absent</i>

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Sector-55, Gurugram**

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19-04-23

SCHOOL OF ENGINEERING AND TECHNOLOGY, SUSHANT UNIVERSITY

Remedial Program - JAN AUG 2023

Semester: II

Course Title:

Course Code: 21BCA-01P12C

Faculty: Dr. Rinky Arora

Sl. No	Student Name	Roll No	No of Quizes taken	No of Assignments taken	Class Notes Given	Feedback given to students	Parent's Feedback	Students Signature	Comments
--------	--------------	---------	--------------------	-------------------------	-------------------	----------------------------	-------------------	--------------------	----------

1	Ronak	220BCA006	1	1	Yes	Yes	Yes	Ronak	
2	Rinod	220BCA030	1	1	Yes	Yes	Yes	Rinod	
3	Rupit	220BCA019	1	1	Yes	Yes	Yes	Rupit	
4	Vikram	220BCA023	1	1	Yes	Yes	Yes	Vikram	
5	Kokhaya	220BCA013	1	1	Yes	Yes	Yes	Kokhaya	
6	Himanshu	220BCA013	1	1	Yes	Yes	Yes	Himanshu	
7	Randey	220BCA010	1	1	Yes	Yes	Yes	Randey	
8	Arjun	220BCA028	1	1	Yes	Yes	Yes	Arjun	
9	Rohan	220BCA069	1	1	Yes	Yes	Yes	Rohan	
10	Nandya	220BCA012	1	1	Yes	Yes	Yes	Nandya	
11	Himanshu	220BCA043	1	1	Yes	Yes	Yes	Himanshu	



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Rahika

School of Engineering & Technology, Sushant University

Remedial Assignment – Odd Sem 2023

Program: BCA
Course Name: Advanced Web Development
Faculty: Dr Rinky Ahuja
Submission Deadline: 28-11-23
Sem: III
Course Code: 21BCA-0AW21C
Maximum Marks: 10

Course Outcomes

- CO1: Develop web pages using the HTML and CSS features with different layouts as per need of applications.
- CO2: Write and deploy Java script code to solve practical web design problems.
- CO3: Gain an advanced understanding of the core mechanics of how JavaScript compiles, optimizes, and executes in the browser.
- CO4: Learn to create servers, and understand how it works.
- CO5: Learn how to work with streams and events for better no-blocking I/O and develop powerful and large web applications using NodeJS as it has micro services and other features.

Assignment:

- Q.1 (CO1) Create the Registration form and apply appropriate CSS properties to it.
- Q.2 (CO2) Write a JavaScript program to display the drop down menu.
- Q.3 (CO3) Write a JavaScript program to display the current date and time.
- Q.4 (CO4) Differentiate between built-in and user defined modules in Node.js with relevant examples.
- Q.5 (CO5) Create a Node.js file that will convert the output into upper-case letters by making use of NPM.



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[Signature]

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Advance Web Development

Submitted by

Kanika Sharma

Roll no. - 220BCA067

Course code - 21 BCA-0AW21C

Year-2023

Submitted to

Dr Rinky Ahuja

(Signature)

(Signature)



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School of Information Technology
Sushant University
Sector-55, Gurugram

Problem 3 - Country Capital

```
<!DOCTYPE html>
<html>
<head>
<title>Country Capital Lookup</title>
<style>
body {
text-align: center;
font-family: Arial, sans-serif;
background-color: #f4f4f4;
margin: 0;
padding: 0;
}

.container {
margin-top: 100px;
background-color: #fff;
padding: 20px;
border-radius: 8px;
box-shadow: 0px 0px 10px rgba(0, 0, 0, 0.2);
}

h1 {
font-size: 24px;
}

select {
width: 100%;
padding: 10px;
margin-top: 10px;
font-size: 16px;
}
```



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Sector 55, Gurgaon

```
#capitalIDisplay
{
margin-top:
20px; font-size:
18px;
}
```

```

</style>
</head>
<body>
<div class="container">
<h1>Select a Country</h1>
<select id="countrySelect" onchange="displayCapital()">
<option value="">Select a country</option>
<option value="USA">United States</option>
<option value="Canada">Canada</option>
<option value="UK">United Kingdom</option>
<option value="France">France</option>
<option value="Germany">Germany</option>
</select>
<div id="capitalIDisplay"></div>
</div>
<script>
function displayCapital() {
const countrySelect = document.getElementById("countrySelect");
const capitalIDisplay = document.getElementById("capitalIDisplay");
let capital = "";
switch (selectedCountry) {
case "USA":
capital = "Washington, D.C.";break;
case "Canada":
capital = "Ottawa";
break;
case "UK":
capital = "London";
break;
}
}

```



Handwritten signature

Handwritten signature

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Saskatoon University
Sect. 55, Gurugram



Omey
Omey

Select a Country

Canada

Capital: Ottawa

```
case "France":  
  capital = "Paris";  
break;  
case "Germany":  
  capital = "Berlin";  
break;  
default:  
  capital = "Select a country to see its capital";  
break;  
}  
capitalDisplay.textContent = "Capital: " + capital;  
}
```

```
</script>  
</body>  
</html>
```

Problem 4 - Form

```
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="UTF-8">
<meta name="viewport" content="width=device-width, initial-scale=1.0">
<title>Student Marks & Feedback Form</title>
</script>
function calculateTotal() {
var num1 = document.getElementById("Marks1").valueAsNumber;
var num2 = document.getElementById("Marks2").valueAsNumber;
var num3 = document.getElementById("Marks3").valueAsNumber;
var total = num1 + num2 + num3;
document.getElementById("marksResult").innerHTML = "Total Marks: " + total;
}

function calculateAverage() {
var num1 = document.getElementById("Marks1").valueAsNumber;
var num2 = document.getElementById("Marks2").valueAsNumber;
var num3 = document.getElementById("Marks3").valueAsNumber;
var average = (num1 + num2 + num3) / 3;
document.getElementById("marksResult").innerHTML = "Average Marks: " +
average.toFixed(2);
}
</script>
</head>
<body>
<h2>Student Marks & Feedback Form</h2>
<form>
<fieldset>
<legend>Student Marks Entry</legend>
<label for="Marks1">Marks 1:</label>
<input type="number" id="Marks1" name="Marks1"><br><br>
```



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(37)

Q. No. 4

Q. No. 4

```

<label for="Marks2">Marks 2:</label>
<input type="number" id="Marks2" name="Marks2"><br><br>
<label for="Marks3">Marks 3:</label>
<input type="number" id="Marks3" name="Marks3"><br><br>
<input type="button" onclick="calculateTotal()" value="Calculate Total">
<input type="button" onclick="calculateAverage()" value="Calculate Average">
<div id="marksResult"></div>
</fieldset>
</form>

```

```

<form action="submit_feedback.php" method="post" target="_blank"
  enctype="multipart/form-data" novalidate onSubmit="validateFeedbackForm()">

```

```

<fieldset>
<legend>Feedback Form</legend>
<label for="name">Name:</label>
<input type="text" id="name" name="name" required placeholder="Your name"
  autofocus><br><br>
<label for="email">Email:</label>
<input type="email" id="email" name="email" required placeholder="Your

```

```

  email"><br><br>
<label for="feedback">Feedback:</label>
<textarea id="feedback" name="feedback" rows="4" cols="50" required
  placeholder="Enter your feedback here"></textarea><br><br>
<label for="rating">Rating:</label>
<select id="rating" name="rating" required>
<option value="" disabled>Select rating</option>
<option value="5">5 Stars</option>
<option value="4">4 Stars</option>
<option value="3">3 Stars</option>
<option value="2">2 Stars</option>
<option value="1">1 Star</option>
</select><br><br>

```

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Handwritten signatures and initials.

```

</label>
<input type="checkbox" id="subscribe" name="subscribe" value="yes" checked>
Subscribe
</label><br><br>
<label for="attachment">Attach a file:</label>
<input type="file" id="attachment" name="attachment" accept=".pdf,
.docx"><br><br>
<button type="submit" formaction="submit_feedback.php"
formenctype="multipart/form-data" formmethod="post" formtarget="_blank"
formnovalidate>
Submit
</button>
<button type="reset">Reset</button>
</fieldset>
</form>
</body>
</html>

```

Student Marks & Feedback Form

Student Marks Entry	
Marks 1:	
Marks 2:	
Marks 3:	
Calculate Total Calculate Average	

Feedback Form	
Name:	Email:
Enter your feedback here	
Rating: Stars	
☒ Subscribe	
Attach a file: Choose file No file chosen	
Submit Reset	



Om

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Sector-55, Gurugram

Assessment Mid Term

The respondent's email (vishalpal.bca21@sushantuniversity.edu.in) was recorded on submission of this form.

Name *

Vishal Pal

Email *

Vishalpal.bca21@sushantuniversity.edu.in

1 Machine Learning is a field of AI consisting of learning algorithms that _____ *

☐ are efficient at executing some task

☐ get better over time with experience

☐ improve their performance

☒ All of the above



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(Signature)

2 Data points have negative residual *

- ☐ if they are below the regression line
- ☒ if they are above the regression line
- ☐ if the regression line actually passes through the point
- ☐ None of the above

3. Real-Time decisions, Game AI, Learning Tasks, Skill acquisition, and Robot Navigation are applications of _____ *

- ☒ Reinforcement Learning
- ☐ Supervised Learning: Classification
- ☐ Unsupervised Learning: Regression
- ☐ None of the above

✓ Which of the followings are most widely used metrics and tools to assess a classification model?

- ☒ Confusion matrix
- ☐ Cost-sensitive accuracy
- ☐ Area under the ROC curve
- ☐ All of the above



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5 What is the application of machine learning methods to a large database called? *

- ☒ Data mining
- ☐ Internet of things
- ☐ Artificial intelligence
- ☐ Big data computing

6 Identify the kind of learning algorithm for "facial identities for facial expressions". *

- ☐ Prediction
- ☐ Generating patterns
- ☒ Recognition Patterns
- ☐ Recognizing anomalies

7 Identify the type of learning in which labeled training data is used. *

- ☐ Reinforcement learning
- ☐ Unsupervised learning
- ☒ Supervised learning
- ☐ Semi unsupervised learning



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8 What kind of table compares classifications predicted by the model with the actual class labels?

- ☐ Residual plot
☐ Prediction plot
☐ Chaos table
☒ Confusion Matrix

9 Who is the father of machine learning?

- ☒ Geoffrey Everest Hinton
☐ Geoffrey Chaucer
☐ Geoffrey Hill
☐ None of the Above

10 _____ algorithms enable the computers to learn from data, and even improve themselves, without being explicitly programmed.

- ☐ Deep Learning
☐ Artificial Intelligence
☒ Machine Learning
☐ None of the Above



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11 What is the output of training process in machine learning?

- ☐ Accuracy
☒ Machine learning model
☐ Machine learning algorithm
☐ None of the Above

Identify the successful applications of Machine Learning. *

- ☐ Learning to recognize spoken words
☐ Learning to drive an autonomous vehicle
☐ Learning to classify new astronomical structures
☒ All of the Above

12. The most common issue when using Machine Learning is _____

- ☒ Poor Data Quality
☐ Inadequate Infrastructure
☐ Lack of skilled resources
☐ None of the Above



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14. Identify the difficulties with the k-nearest neighbor algorithm. *

- ☐ Curse of dimensionality
- ☐ Calculate the distance of the test case from all training cases
- ☒ Both (A) and (B)
- ☐ None of the Above

15. Which of the following will be true about k in K-Nearest Neighbor in terms of Bias? *

- ☐ When you decrease the k the bias will be increases
- ☒ When you increase the k the bias will be increases
- ☐ Both (A) and (B)
- ☐ None of the Above

Google Forms

This form was created inside of Sushant University.



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Assessment Mid Term

The respondent's email (deepukumar.bca21@sushantuniversity.edu.in) was recorded on submission of this form.

Name *

Deepu kumar

Email *

deepukumar.BCA21@sis hang university.edu.in

1 Machine Learning is a field of AI consisting of learning algorithms that _____ *

- ☐ are efficient at executing some task
- ☐ get better over time with experience
- ☒ Improve their performance
- ☐ All of the above



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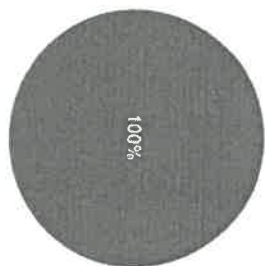
OS second evaluation

8 responses

program in execution is called

8 responses

Copy

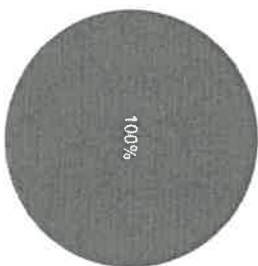


- process
- instruction
- procedure
- function

interval between time of submission and completion of job is called

8 responses

Copy



- waiting time
- turn around time
- throughput time
- response time

scheduler that selects process from secondary storage is called

8 responses

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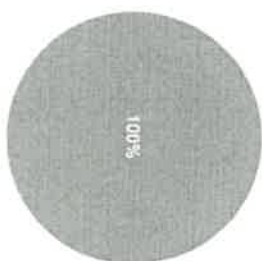


- short term scheduler
- long term scheduler
- mid term scheduler
- process scheduler

CPU scheduling in which CPU is allocated to process with least CPU burst time

8 responses

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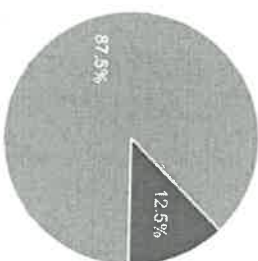


- Priority Scheduling
- Round robin Scheduling
- Shortest job Scheduling
- multilevel queue Scheduling

the term page traffic describes

8 responses

Copy

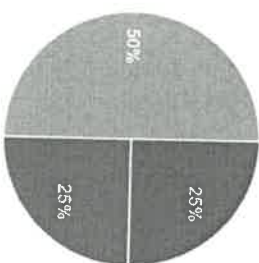


- number of pages in memory at a given instant
- number of pages required to be brought-in at a given page request
- Movement of page in and out of memory
- number of pages of executing program loaded in memory

turn around time of a job is

8 responses

Copy



- time of submission to the time of result generation
- time duration till which CPU is allocated to the job
- Total time taken to execute the job
- time taken for job to move from assembly phase to completion phase



Advance learner Online for Operating system.
Class: BCA II Year.

Sushant University
School of Engineering and Technology
Program: BCA (IV Semester)
Subject: Advanced Java.

Quiz

NOTE: Attempt any 4 Questions. Each question carries equal marks. (4X 5 Marks= 20 Marks).

Marks will be scaled down to 10

1. Give example of any two methods that operates on socket object
2. What do you understand by the term "bytecode"?
3. Implement the following method: public String reverse(String STR) which takes in a string and returns the reverse of the string
4. What is socket? Explain each kind of socket by common methods provided through code.
5. What are the various ways to incorporate event handling in a swing application? Describe a suitable example.
6. Discuss the collection interface in java. Write a simple program illustrating the use of ArrayList of string and specify the advantage of an ArrayList over regular arrays.



University

CERTIFICATE OF APPRECIATION

This Certificate is Proudly Presented to :

Kshitiij Gupta

In recognition of excellent efforts and outstanding performance in "Live Project Exhibition and Competition" organized by School Of Engineering And Technology, Sushant University, Gurugram on 13th Feb, 2023.

Latika

DR. LATIKA SINGH

Associate Dean

School of Engineering and Technology

DR. SUDIPTO SARKAR

Dean

School of Engineering and Technology

Latika

Dean

School Of Engg. & Technology
Sushant University
Sector-55, Gurugram



2nd International Conference on Machine Learning and
Big Data Analytics (ICMLBDA) 2022

29 - 30 March 2022

- CERTIFICATE OF PARTICIPATION -

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From Sushant University, Gurgaon

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30th March 2022



Dr. Nishtha Kesswani
Session chair




Prof. Rajiv Misra

Prof. Rajiv Misra
Technical Programme Chair

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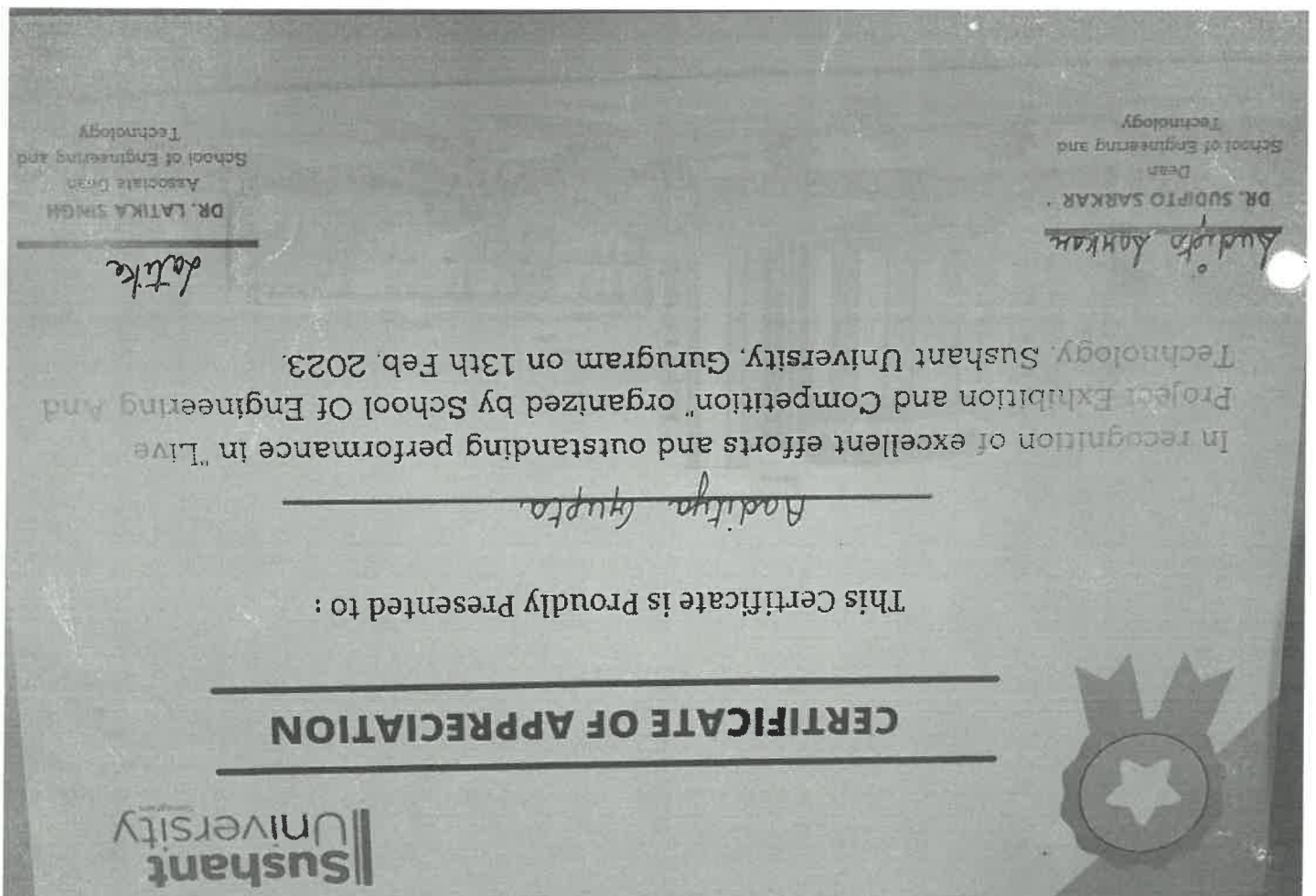
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I A A S S E



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