Practice No. : 3

Topic : Control Flow Statements

Date : 04-05-2024

Solve the following problems

Question No.	Question Detail	Level
1	A company decided to give bonus of 5% to employee if his/her year of service is more than 5 years. Ask user for their salary and year of service and print the net bonus amount. Sample Input: 20000, 7 Sample Output: 1000 Sample Input: 50000, 3 Sample Output: 0	Easy
2	Write a program to print absolute value of a number entered by user without using library method. Sample Input: 1 Sample Output: 1 Sample Input: -1 Sample Output: 1	Easy
3	There is a group selection in a crowd for an event based on the entry ticket number. For every group, the group leader will be the one who's ticket number has 10 as it's factor. If anyone gives the ticket number tell him/her that they are a group leader or a group member. Sample Input: 5423 Sample Output: Group Member Sample Input: 5610 Sample Output: Group Leader	Easy
4	Ask user to enter age, and sex (M or F), then using following rules print their place of service. a) if employee is female, then she will work only in urban areas.	Easy

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	b) if employee is a male and age is in between 20 to 40 then he may work in anywhere c) if employee is male and age is in between 40 to 60 then he will work in urban areas only. d) And any other input of age should print "ERROR". Sample Input: 26, F Sample Output: Urban Area Sample Input: 30, M Sample Output: Anywhere	

5	Write a program to display the grade of a student based on his/her marks
	
	<pre>Marks Grade Marks Grade
	>90 O 81 to 90 A
	71 to 80 B 61 to 70 C
	50 to 60 D < 50 F</pre>
		Easy

6	The policy followed by a company to process customer orders is given by the following rules: Suppose stock=100. If a customer order is less than or equal to that in stock and his credit is OK, supply his requirements. If his credit is not OK do not supply. Send him intimation. If his credit is OK but the item in stock is less than is order, supply the available stock and inform as 'Out of stock. Balance will be refunded'. Sample Input: 150, 100, 'N' Sample Output: 100 supplied Sample Input: 150, 100, 'Y' Sample Output: Cannot supply Sample Input: 150, 200, 'N' Sample Output: 150 supplied. Out of stock. Balance will be refunded.	Easy
7	During lockdown, ATMs were allowed to dispatch currency bill in specific way. If user enters the amount, which is not multiple of 500 transactions will be rejected. Sample Input: 3400 (assume balance is 10000) Sample Output: Please enter amount multiple of 500 Sample Input: 2000 (assume balance is 10000) Sample Output: Valid amount, transaction in process	Easy

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8	Create a program to display the "text" corresponding to a certain "numerical value", using the following equivalence: a) 9,10 = Excellent b) 7,8 = Notable c) 6 = Good d) 5 = Approved e) 0-4 = Fail f) >=10= Invalid Sample Input: 9 Sample Output: Excellent Sample Input: 3 Sample Output: Fail	Easy
9	Write a program to perform the following: a) Display the question "What is the unit of currency in India?" b) Accept the answer c) If the answer is wrong (other than Rupee) display "Try again!". d) If it is correct "Rupee" display the message "Answer is correct". e) If the user gives the correct answer in first two attempts the program will terminate. f) If the user fails to provide correct answer in three attempts the program itself gives the answer. Sample Input/Output: What is the unit of currency in India? Rupee Answer is correct Sample Input/Output: What is the unit of currency in India? Euro Try again!	Easy

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	Rupee Answer is correct Sample Input/Output: What is the unit of currency in India? Yen Try again! Pound Try again! Euro Sorry it is Rupee	
10	Read N. Find the Sum of first N odd numbers. Sample Input: 3 Sample Output: 9 Sample Input: 7 Sample Output: 49	Easy
11	Write a program to print all possible outcomes with two dices (6 sides with digits 1 to 6) Expected Output: (1,1) (1,2) (1,3) (1,4) (1,5) (1,6) (2,1) (2,2) (2,3) (2,4) (2,5) (2,6) (3,1) (3,2) (3,3) (3,4) (3,5) (3,6) (4,1) (4,2) (4,3) (4,4) (4,5) (4,6) (5,1) (5,2) (5,3) (5,4) (5,5) (5,6) (6,1) (6,2) (6,3) (6,4) (6,5) (6,6)	Easy
12	Write a program to print the multiplication table from 1 to N (where N is a number entered by user). Sample Input: 10 Sample Output:	Easy

1	2	3	4	5	6	7	8	9	10
2	4	6	8	10	12	14	16	18	20
3	6	9	12	15	18	21	24	27	30
4	8	12	16	20	24	28	32	36	40
5	10	15	20	25	30	35	40	45	50
6	12	18	24	30	36	42	48	54	60
7	14	21	28	35	42	49	56	63	70
8	16	24	32	40	48	56	64	72	80
9	18	27	36	45	54	63	72	81	90
10	20	30	40	50	60	70	80	90	100

13	Write a program to print the following star pattern Sample Input: 5 Sample Output: * * * * * * * * * * * * * * *	Easy
14	Write a program to print the following pattern Sample Input: 5 Sample Output: 1 1 2 1 2 3 1 2 3 4 1 2 3 4 5	Easy
15	Write a program to print the following pattern Sample Input: 5 Sample Output: * * * * * * * * * * * * * * *	Easy

16	A person pays tax 10% if his income is more than 2.5 lacs for the amount excess to 2.5 lacs. Person having annual income lesser than 2.5 lac is exempted from tax. Write a program to implement it. Sample Input: 200000 Sample Output: You are exempted from tax Sample Input: 400000 Sample Output: Tax amount is 15000	Medium
17	Read total shopping amount purchased in the shop, and then apply the discount as per the following discount criteria, then find and print the final amount that must be paid by the customer after subtracting the discount amount: Shopping Amount Discount% 5000 and Above 25% 1000 – 4999 10% Below 1000 5%	Medium
18	Write a program to read date of birth as input & calculate the age. Sample Input: 4 7 1989 Sample Output: 33 years 2 months 3 days (May differ. This result is calculated on 14-Sep-2022)	Medium
19	Write a Java program to calculate frequency of digits in a number Sample Input: 34593334 Sample Output: 3 occurs 4 times 4 occurs 2 times 5 occurs 1 times 9 occurs 1 times	Medium
20	To check whether the given number is Armstrong number or not. Armstrong number in 3-digit numbers is a number whose sum of cubes of each digit is equal to the number itself. For example: 153 = 1*1*1 + 5*5*5 + 3*3*3 // 153 is an Armstrong number. Sample Input: 153 Sample Output: true Sample Input: 121 Sample Output: false	Medium

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21	During lockdown, ATMs were allowed to dispatch currencies in specific way. If user enters the amount, which is not multiple of 500 transactions will be rejected. If amount is 500 exactly, then 5 currencies of 100 will be dispatched by machine. Sample Input: 500 Sample Output: please dispatch 5 notes of 100 Sample Input: 300 Sample Output: please enter the amount multiple of 500	Medium
22	A person pays tax 10% if his income is between 2.5 to 5 lacs. On the amount greater than that 20% for 5 to 12 lacs, for amount above 12 lacs 30%. Person will enter the amount input and will get tax amount as output. Sample Input: 200000 Sample Output: You are exempted from tax Sample Input: 40000 Sample Output: Tax amount is 15000 Sample Input: 800000 Sample Output: 85000 Sample Input: 1300000 Sample Output: 195000	Hard
23	In an E-commerce website, there is an offer coupon for books worth Rs. 500 as a special promotion. There is also a separate discount for books, and it is 10%. Apply the max discount between coupon offer and individual discount for books in the final invoice. The user purchases the below book. Calculate the final bill amount to be paid by the user. Harry potter book - 1 no. - Rs. 750	Hard
24	During lockdown, ATMs were allowed to dispatch currencies in specific way. If user enters the amount, which is not multiple of 500 transactions will be rejected. If amount is 500 exactly, then 5 currencies of 100 will be dispatched by machine. If amount is between 500 to 2000 you will get 500 in the form of 100s currencies, rest 500s currencies. If amount is greater than 2000, then 2000 currencies will be dispatched and rest will be dispatched in the denomination of 500, last 500 will be in the denomination of 100. Sample Input: 400	Hard

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	Sample Output: please enter the amount multiple of 500	
	Sample Input: 500	
	Sample Output: 5 notes of 100	
	Sample Input: 1500	
	Sample Output: 5 notes on 100 & 2 notes on 500	
	Sample Input: 5000	
	Sample Output: 5 notes on 100, 2 notes of 2000, 1 notes of 500	

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