Hands-on No. : **1**

Topic : **Java – Control Flow Statements,Array and String**

Date : **29.07.2025**

Solve the following problems

Question No.	Question Detail
1	Write a program to find the mobile chosen is within the budget or not. To find the budget mobiles is based on the below-mentioned criteria, a) If the cost of the mobile chosen is less than or equal to 15000 then display it as "Mobile chosen is within the budget" b) If the cost of the mobile chosen is greater than 15000 then display it as "Mobile chosen is beyond the budget" Sample Input: 12000 Sample Output: Mobile chosen is within the budget Sample Input: 22000 Sample Output: Mobile chosen is beyond the budget
2	Write a program that accepts three numbers from the user and prints "increasing" if the numbers are in increasing order, "decreasing" if the numbers are in decreasing order, and "Neither increasing or decreasing order" otherwise. Sample Input: 3 6 8 Sample Output: Increasing order Sample Input: 9 5 1 Sample Output: Decreasing order Sample Input: 4 9 2 Sample Output: Neither increasing nor decreasing order
3	Ask user to enter age, and sex (M or F), then using following rules, print their place of service. a) if the employee is female, then she will work only in urban areas. 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.

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It is going to be hard but, hard does not mean impossible.

	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
4	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%
5	Smith and John, grade 3 students playing number games. When Smith gives a number John will say the natural numbers up to that number but in reverse order. Shia, their friend will say the sum of those numbers. Help John and Smith with your program. Sample Input: 4 Sample Output: 4 3 2 1 , 10 Sample Input: 7 Sample Output: 7 6 5 4 3 2 1 , 28
6	Write a program to print 'odd' or 'even' number series based on the given number. That is if the input is an odd number, then it should generate the odd number series from 1 to the given number inclusive. If it is even, then it should generate the series from 2 to that number. Sample Input: 13 Sample Output: 1 3 5 7 9 11 13 Sample Input: 16 Sample Output: 2 4 6 8 10 12 14 16
7	Given a number, Find the factorial of the given number using iteratives. Sample Input: 5 Sample Output: 120 Sample Input: 7

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	Sample Output: 5040
8	Write a program to check whether the given number is prime or not. Sample Input: 91 Sample Output: No Sample Input: 97 Sample Output: Yes
9.	Mike enters randomly twenty-five numbers from the keyboard and stores it into an array. He wants to search if the number is present in the array and if it is present, he needs to display the number of times it appears in the array. Help him with your program. Sample Input: [1, 2, 8, 3, 4, 5, 5, 6, 7, 8, 1, 2, 8, 3, 4, 5, 5, 6, 7, 8, 1, 2, 8, 3, 4], 8 Sample Output: 5
10	Given an array of size N-1 such that it only contains distinct integers in the range of 1 to N. Find the missing element. Assume that integer range is correctly given. Sample Input: 5, [1,2,3,5] Sample Output: 4 Sample Input: 10, [6,1,2,8,3,4,7,10,5] Sample Output: 9
11	Imagine you're on a treasure hunt, and the map you've been given contains a series of numbers as instead of landmarks. Your task is to find the largest treasure hidden in this array of numbers. Sample Input: 5, 12, 8, 29, 17, 6, 21 Sample Output 29
12	You're participating in a coding competition where the challenge is to identify duplicate elements in an array. How would you devise a strategy to detect and remove these duplicates? Sample Input: [5,8,2,5,9,2,3,8] Sample Output:[5,8,2,9,3]
13	Write a java program that takes as input a string as a Sentence and return its second word in uppercase. Note : if the input string(sentence) with less than 2 words, the code should print the word ”LESS” Sample Input:

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<table>
<tr><td></td><td>MontBleu Technologies Bangalore
Sample Output:
TECHNOLOGIES
Sample Input:
World Cup
Sample Output:
CUP
Sample Input:
Championship 2017 League
Sample Output:
2017
Sample Input:
Hello
Sample Output
LESS</td></tr>
<tr><td>14</td><td>Given two strings a and b. Write a Java function isAnagram () to check whether the two strings are anagrams or not.
Note: An anagram of a string is another string that contains the same characters, only the order of characters can be different.
For example: Listen and Silent are anagrams
<table>
<tr><th>Character</th><th>Frequency: Listen</th><th>Frequency: Silent</th></tr>
<tr><td>L or l</td><td>1</td><td>1</td></tr>
<tr><td>I or i</td><td>1</td><td>1</td></tr>
<tr><td>S or s</td><td>1</td><td>1</td></tr>
<tr><td>T or t</td><td>1</td><td>1</td></tr>
<tr><td>E or e</td><td>1</td><td>1</td></tr>
<tr><td>N or n</td><td>1</td><td>1</td></tr>
</table></td></tr>
</table>

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