HEXAWARE

Java Fundamental

Instruction

- Submit assignments through single file upload option containing source code for all the questions.
- Document should contain source code with output screenshot, corresponding to each question.
- Guidelines for uploading documents is provided in separate file.
- The uploaded document should be names as candidateName_java/sql_topicname_assignment
  Eg: Amalan_Java_Fundamental

1. Control Structure

i). Problem Description -: Write a program to compute the selling price of a product such that

- Take MRP input (int)

- Take discount input (double)

Sample input

Enter MRP: 254

Enter discount: 10.0

Output: The Selling price: 228

ii). Problem Description -: A company insures its drivers in the following cases:

– If the driver is married.

– If the driver is unmarried, male & above 30 years of age.

– If the driver is unmarried, female & above 25 years of age. In all other cases, the driver is not insured. If the marital status, sex and age of the driver are the inputs, write a program to determine whether the driver should be insured or not.

Sample Input: married male 32

Sample Output: Driver should be insured

Sample Input: unmarried female 22

Sample Output: Driver should not be insured

iii). Problem Description -: Write a program to print out all Armstrong numbers between 1 and 500. If sum of cubes of each digit of the number is equal to the number itself, then the number is called an Armstrong number. For example, 153 = (1 * 1 * 1) + (5 * 5 * 5) + (3 * 3 * 3)

Sample Input: 100 500

Sample Output: 153, 370, 371, 407

iv). Problem Description -: Write a program to print all prime numbers from number1 to number 2

Sample Input: 1 100

Sample Output: 2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, 41, 43, 47, 53, 59, 61, 67, 71, 73, 79, 83, 89, 97

v). Write a program to produce the following output:

```
A B C D E F G F E D C B A
A B C D E F     F E D C B A
A B C D E         E D C B A
A B C D             D C B A
A B C                 C B A
A B                     B A
A                         A
```

2. Array and String

i) Problem Description -: Given an array Arr[ ] of N integers and a positive integer K. The task is to cyclically rotate the array clockwise by K.

Note : Keep the first of the array unaltered.

Example 1:

5 —Value of N

{10, 20, 30, 40, 50} —Element of Arr[ ]

2 —–Value of K

Output:

40 50 10 20 30

Example 2:

4 —Value of N

{10, 20, 30, 40} —Element of Arr[]

1 —–Value of K

Output:

40 10 20 30

ii) Problem Description -: Pinnacle Inc, is a leading security firm that takes care of managing the customer details of various banks located in Berlin. There was some intervention in the server that is used for storing the data and the data have been manipulated by the attackers.

The employees of Pinnacle are now in a position to get all the data right with respect to the customer ID. the customer Id of the employees will always be a 6 digit number and the current task is to develop an application that displays all the ID's that does not fall in the valid category from the existing set of id's.

Input

First line consist of an integer representing the number of ID, to be verified and the second line with n strings seperated by a single space

Output

Display the entire ID, that does not satisfy the criteria and if ail the ID, are valid. else display 0.

Example 1:

Input:

5

103010 12036 20626 2 661281

Output:

12036 20626 2

Example 2:

6

103010 103020 120367 205626 123322 661281

Output:

0

iii) Problem Description -: find the sum of number in array whose sum of digits greater than ‘k’ and print the sum as output. Refer example 1 explanation for reference.

Sample Inputs:

6

198 567 345 9234 11 6

18

Sample Outputs:

9999

Explanation:

Array A with 6 elements is given and K = 18. The sum of digits of 198(1+9+8), 567(5+6+7) and 9234(9+2+3+4) is 18. The other elements' digits do not add up to 18. Therefore, the output is the sum of these three elements: 198 + 567 + 9234 = 9999.

Sample Input2:

5

98 56 345 9234 11

6

Output 2:

0

iv) Problem Description -: Given an integer array nums of length n where all the integers of nums are in the range [1, n] and, return an array of all the integers that appears more than once in an array.

Example 1:

Input: nums = [4,3,2,7,8,2,3,1]

Output: [2,3]

Example 2:

Input: nums = [1,1,2]

Output: [1]