

## Programs using control structures

1. Write a program to accept gender ("Male" or "Female") and age (1-120) from command line arguments and print the percentage of interest based on the given conditions.

Interest == 8.2% Gender ==> Female Age ==>1 to 58

Interest == 7.6% Gender ==> Female Age ==>59 -120

Interest == 9.2% Gender ==> Male Age ==>1-60

Interest == 8.3% Gender ==> Male Age ==>61-120.

**AIM:**

**PROCEDURE :**

**SOURCE CODE :**

Hints :

```
String gender=args[0];  
int age=Integer.parseInt(args[1]);  
if(gender=="female" && (age>=1 && age<=58))
```

2. Write a program to convert from upper case to lower case and vice versa of an alphabet and print the old character and new character as shown in example (Ex: a->A, M->m).

**AIM:**

**PROCEDURE :**

**SOURCE CODE :**

```
char c=args[0].charAt(0);
```

```
char b;  
if(Character.isLowerCase(c))  
{  
b=Character.toUpperCase(c);  
}
```

**3. Write a program to check if a given number is prime or not.**

**AIM:**

**PROCEDURE :**

**SOURCE CODE :**

```
int num =Integer.parseInt(args[0]);  
boolean flag = false;  
    for (int i = 2; i <= num / 2; ++i)  
    {  
        if (num % i == 0)  
        {  
            flag = true;  
            break;  
        }  
    }
```

4. Write a program to print even numbers between 23 and 57, each number should be printed in a separate row.

Same as que 3

5. Write a Java program to find if the given number is prime or not.

Example1:

C:\>java Sample

O/P Expected : Please enter an integer number

Example2:

C:\>java Sample 1

O/P Expected : 1 is neither prime nor composite

Example3:

C:\>java Sample 0

Page 1 of 8O/P Expected : 0 is neither prime nor composite

Example4:

C:\>java Sample 10

O/P Expected : 10 is not a prime number

Example5:

C:\>java Sample 7

O/P Expected : 7 is a prime number

Same as ques 3

6. Write a program to print \* in Floyds format (using for and while loop)

\*

Example1:

C:\>java Sample

O/P Expected : Please enter an integer number

Example1:

C:\>java Sample 3

O/P Expected :

\*

\* \*

\* \* \*

int n, c, d; // get n from user using scanner method

for ( c = 1 ; c <= n ; c++ )

{

for ( d = 1 ; d <= c ; d++ )

{

System.out.print("\*" + " ");

}

System.out.println();

7. Write a program to reverse a given number and print

Eg. 1) I/P: 1234 O/P:4321

Eg. 2) I/P:1004 O/P:4001

8. Write a program that displays a menu with options 1. Add 2. Sub Based on the options chosen, read 2 numbers and perform the relevant operation. After performing the operation, the program should ask the user if he wants to continue. If the user presses y or Y, then the program should continue displaying the menu else the program should terminate. [ Note: Use Scanner class, you can take help from the trainer regarding the same]

9. Write a program to print first 5 values which are divisible by 2, 3, and 5.

### **Topic: Programs using arrays**

10. Write a program to initialize an integer array with values and check if a given number is present in the array or not. If the number is not found, it will print -1 else it will print the index value of the given number in the array.

Ex1) Array elements are {1, 4,34,56,7} and the search element is 90  
O/P: -1

Ex2)Array elements are {1,4,34,56,7} and the search element is 56  
O/P: 4

11. Write a program to remove the duplicate elements in an array and print Eg) Array Elements--12, 34,12,45,67,89 O/P: 12,34,45,67,89.

12. Write a program to print the sum of the elements of the array with the given below condition. If the array has 6 and 7 in succeeding orders, ignore 6 and 7 and the numbers between them for the calculation of

Page 3 of 8sum. Eg1) Array Elements - 10,3,6,1,2,7,9 O/P: 22 [i.e 10+3+9]  
Eg2)

Array Elements - 7,1,2,3,6 O/P:19 Eg3) Array Elements - 1,6,4,7,9  
O/P:10

13. Write a program to reverse the elements of a given 2\*2 array. Four integer numbers need to be passed as Command Line arguments.

Example1:

C:\>java Sample 1 2 3

O/P Expected: Please enter 4 integer numbers

Example2:

C:\>java Sample 1 2 3 4

O/P Expected:

The given array is : 1 2 3 4 The reverse of the array is : 4 3 2 1

1 2 3 4 5 6 7 8 9 10 11 12

14. Write a program to find greatest number in a 3\*3 array. The program is supposed to receive 9 integer numbers as command line arguments.

Example1:

C:\>java Sample 1 2 3

O/P Expected: Please enter 9 integer numbers

Example2:

C:\>java Sample 1 23 45 55 121 222 56 77 89

O/P Expected:

The given array is: 1 23 45 55 121 222 56 77 89 The biggest number in the given array is 222