Q. Create one employee class and in that class create instance variable, local variable and static variable

A.

```
public class Employee
  {
        int rollno;
        int age;
        static String college = "JUM";

        void details(int rollno, int age, String name)
        {
             int per = 90;
            this.rollno = rollno;
            this.age = age;
            System.out.println("Rollno=" + rollno);
            System.out.println("Age=" + age);
            System.out.println("Percentage=" + per);
            System.out.println("Name=" + name);
             System.out.println("College=" + college);
       }

        public static void main(String[] args)
       {
            Employee e = new Employee();
            e.details(101, 21, "Monalisa");
       }
 }
```

Output:

Rollno=101

Age=21

Percentage=90

Name=Monalisa

College=JUM

Q. Create addition of two numbers using variables
A. public class AddNumbers

```
{
    public static void main(String[] args)
    {
        int a = 5;
        int b = 10;
        int sum = a + b;
        System.out.println("Sum=" + sum);
    }
}
```

Output:

Sum=15

Q. Swap two numbers using third variable
A. public class SwapNumbers

```
{
    public static void main(String[] args)
    {
        int a = 10;
        int b = 20;
        int temp;
        temp = a;
        a = b;
        b = temp;
        System.out.println("a=" + a);
        System.out.println("b=" + b);
    }
}
```

Output:

a=20

b=10

Q. Calculate area of rectangle
A. public class AreaRectangle

```
{
    public static void main(String[] args)
    {
        int length = 8;
        int breadth = 5;
        int area = length * breadth;
        System.out.println("Area=" + area);
    }
}
```

Output:

Area=40

Q. Calculate simple interest
A. public class SimpleInterest

```
{
    public static void main(String[] args)
    {
        double p = 1000;
        double r = 5;
        double t = 2;
        double si = (p * r * t) / 100;
        System.out.println("Simple Interest=" + si);
    }
}
```

Output:

Simple Interest=100.0

Q. Count number of vowels in a string (input="Programming", output=3 vowels)
A. public class CountVowels

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

```
        String str = "Programming";
         int count = 0;
         str = str.toLowerCase();
        for(int i = 0; i < str.length(); i++)
       {
           char ch = str.charAt(i);
           if(ch == 'a' || ch == 'e' || ch == 'i' || ch == 'o' || ch == 'u')
           {
                 count++;
            }
       }
       System.out.println("Vowels=" + count);
    }
}
```

Output:

Vowels=3

Q. Replace all spaces with hyphens

A.
```
public class ReplaceSpaces
  {
       public static void main(String[] args)
       {
            String str = "Hello World Java";
             String replaced = str.replace(' ', '-');
              System.out.println(replaced);
       }
  }
```

Output:

Hello-World-Java

Q. Check if a string is palindrome

A.
```
public class PalindromeCheck
  {
       public static void main(String[] args)
```

```
        {
            String str = "madam";
            String rev = "";
            for(int i = str.length() - 1; i >= 0; i--)
            {
                rev = rev + str.charAt(i);
            }
            if(str.equals(rev))
            {
                System.out.println("Palindrome");
            }
            else
            {
                System.out.println("Not Palindrome");
            }
        }
    }
```

Output:

Palindrome

Q. Count words in a sentence

A.

```
public class CountWords
  {
        public static void main(String[] args)
        {
            String sentence = "This is a java program";
            String[] words = sentence.split(" ");
            System.out.println("Word Count=" + words.length);
        }
    }
```

Output:

Word Count=5

Q. Check if string starts with "j" and ends with "a" (e.g. "java")
A.

```
public class StartEndCheck
  {
      public static void main(String[] args)
     {
         String str = "java";
         if(str.startsWith("j") && str.endsWith("a"))
        {
           System.out.println("True");
        }
       else
      {
         System.out.println("False");
      }
     }
  }
```

Output:

True

Q. Split a sentence into words
A.

```
public class SplitSentence
  {
     public static void main(String[] args)
     {
         String sentence = "Welcome to Java programming";
         String[] words = sentence.split(" ");
         for(int i = 0; i < words.length; i++)
         {
             System.out.println(words[i]);
         }
      }
  }
```

Output:

Welcome

to

Java

programming

Q. Write a program to find the frequency of each character in a string

A. public class CharFrequency

```
{
    public static void main(String[] args)
    {
        String str = "hello";
        str = str.toLowerCase();
        int[] freq = new int[26];
        for(int i = 0; i < str.length(); i++)
        {
            freq[str.charAt(i) - 'a']++;
        }
        for(int i = 0; i < 26; i++)
        {
            if(freq[i] > 0)
            {
                System.out.println((char)(i + 'a') + "=" + freq[i]);
            }
        }
    }
}
```

Output:

h=1

e=1

l=2

o=1

Q. Write a program to remove all white spaces from string

A. public class RemoveSpaces

```
{
    public static void main(String[] args)
    {
        String str = "H e l l o  W o r l d";
        String removed = str.replace(" ", "");
        System.out.println(removed);
    }
}
```

Output:

HelloWorld

Q. Write a program to count digits, letters, spaces and special characters

A.

```
public class CountChars
{
    public static void main(String[] args)
    {
        String str = "Hello World 1234!@";
        int digits=0, letters=0, spaces=0, special=0;
        for(int i=0; i<str.length(); i++)
        {
            char ch = str.charAt(i);
            if(Character.isDigit(ch))
                digits++;
            else if(Character.isLetter(ch))
                letters++;
            else if(Character.isSpaceChar(ch))
                spaces++;
            else
                special++;
        }
        System.out.println("Digits=" + digits);
        System.out.println("Letters=" + letters);
```

```
            System.out.println("Spaces=" + spaces);
            System.out.println("Special Characters=" + special);
      }
   }
```

Output:

Digits=4

Letters=10

Spaces=2

Special Characters=2

Q. Write a program to sort characters of a String alphabetically

A.
```
import java.util.Arrays;
   public class SortString
   {
         public static void main(String[] args)
         {
               String str = "java";
                char[] ch = str.toCharArray();
                Arrays.sort(ch);
               System.out.println(new String(ch));
          }
    }
```

Output:

aajv

Q. Write a program to find the sum of all elements in an integer array

A.
```
public class SumArray
   {
        public static void main(String[] args)
        {
               int[] arr = {1,2,3,4,5};
                int sum = 0;
               for(int i=0; i<arr.length; i++)
               {
```

```
            sum += arr[i];
        }
        System.out.println("Sum=" + sum);
    }
}
```

Output:

Sum=15

Q. Write a program to count even and odd numbers from an array

A.

```
public class CountEvenOdd
{
    public static void main(String[] args)
    {
        int[] arr = {1,2,3,4,5,6};
        int even=0, odd=0;
        for(int i=0; i<arr.length; i++)
        {
            if(arr[i]%2==0)
                even++;
            else
                odd++;
        }
        System.out.println("Even=" + even);
        System.out.println("Odd=" + odd);
    }
}
```

Output:

Even=3

Odd=3

Q. Find maximum and minimum elements from an array

A.

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

```
    {
        int[] arr = {5,2,9,1,7};
        int max = arr[0];
         int min = arr[0];
        for(int i=1; i<arr.length; i++)
        {
            if(arr[i]>max)
            max=arr[i];
           if(arr[i]<min)
              min=arr[i];
         }
         System.out.println("Maximum=" + max);
        System.out.println("Minimum=" + min);
    }
  }
```

Output:

Maximum=9

Minimum=1

Q. Write a program to find out second highest element from an array

A.

```
public class SecondHighest
  {
     public static void main(String[] args)
     {
        int[] arr = {10,20,4,45,99};
        int first=0, second=0;
        for(int i=0; i<arr.length; i++)
        {
           if(arr[i]>first)
           {
             second=first;
              first=arr[i];
```

```
                }
                 else if(arr[i]>second && arr[i]!=first)
                 {
                      second=arr[i];
                 }
              }
        System.out.println("Second Highest=" + second);
    }
 }
```

Output:

Second Highest=45

Q. Write a program to search for a number entered by the user in an array

A.

```
public class SearchArray
    {
        public static void main(String[] args)
         {
              int[] arr = {5,10,15,20,25};
             int search = 15;
             boolean found = false;
             for(int i=0; i<arr.length; i++)
             {
                 if(arr[i] == search)
                 {
                     found = true;
                      break;
                 }
              }
             if(found)
                 System.out.println("Found");
             else
                 System.out.println("Not Found");
```

```
        }
    }
```

Output:

```
Found
```