BASIC PROGRAMS

1.Write a Program that accepts two Strings as command line arguments and generate the output in the required format.

Example1) If the two command line arguments are Wipro and Bangalore then the output generated should be Wipro Technologies Bangalore. Example2) If the command line arguments are ABC and Mumbai then the output generated should be ABC Technologies Mumbai [Note: It is mandatory to pass two arguments in command line]

PROGRAM:

```
training;
public class Program24{
        public static void main(String[]args){
          if (args.length==2) {
            String company=args[0];
            String city=args[1];
            System.out.println(company+" Technologies "+city);
          }
        }
      }
```

2. Write a Program to accept a String as a command line argument and print a Welcome message as given below. Example1) C:\> java Sample John .

PROGRAM:

```
package training;
public class Program26{
  public static void main(String[] args){
    if (args.length==1) {
      String name=args[0];
      System.out.println("Welcome "+name);
```

```
    }
  }
}
```

3. Write a Program to accept two integers as command line arguments and print the sum of the two numbers Example1) C:\>java Sample 10 20 .

PROGRAM:

```
training;
public class Program25{
  public static void main(String[] args){
    int a =Integer.parseInt(args[0]);
    int b =Integer.parseInt(args[1]);
    int sum = a+b;
    System.out.println("The sum of " +a+ " and " +b+ " is "+sum);
  }
}
```

FOR LOOP

1. Write a program to print numbers from 1 to 10 in a single row with one tab space.

PROGRAM:

```
class Main {
  public static void main(String[] args) {
    for(int i=1;i<=10;i++){
      System.out.print(i + "   ");
    }
  }
}
```

2. Write a program to print even numbers between 23 and 57. Each number should be printed in a separated row.

PROGRAM:

```
class Main {
      public static void main(String[] args) {
        for(int i=23;i<=57;i++){
          if(i%2==0){
          System.out.println(i);
    }
      }
    }
    }
```

3) Write a program to print the prime numbers between 10 and 99

PROGRAM:

```
public class Prime {
   public static void main(String[] args) {
      for (int i=11;i<=99;i++) {
         int count=0;
         for (int j=1;j<=i;j++) {
            if (i%j==0) {
               count++;
            }
```

```
        }
        if (count==2) {
           System.out.print(i + " ");
        }
      }
   }
}
```

4) Write a program to print the prime numbers between 10 and 99

PROGRAM:

```
public class ReverseNumber {
   public static void main(String[] args) {
      int[] testCases = {1234, 78512};

      for (int num : testCases) {
         int reversed = 0;
         int n = num;

         while (n > 0) {
            int digit = n % 10;
            reversed = reversed * 10 + digit;
            n = n / 10;
         }

         System.out.println(reversed);
      }
   }
}
```

5) Write a program to print the Floyds Triangle

PROGRAM:

```
public class tri{
   public static void main(String[] args) {
      int[] a={3, 5};
      for (int n:a) {
         int b=1;
         for (int i=1;i<=n;i++) {
            for (int j=1;j<=i;j++) {
               System.out.print(b + " ");
```

```
                b++;
            }
            System.out.println();
        }
        System.out.println();
    }
  }
}
```

6) Write a program to print the following pattern

PROGRAM:

```
public class Star {
   public static void main(String[] args) {
      int[] a={5,4};
      for (int n:a) {
         for (int i=1;i<=n;i++) {
            for (int j=1;j<=n-i;j++) {
               System.out.print(" ");
            }
            for (int k=1;k<=i;k++) {
               System.out.print("* ");
            }
            System.out.println();
         }
         System.out.println();
      }
   }
}
```

WHILE LOOP

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

PROGRAM:

```
public class ReverseNumber {
   public static void main(String[] args) {
      int[] testCases = {1234, 78512};

      for (int num : testCases) {
         int reversed = 0;
         int n = num;

         while (n > 0) {
            int digit = n % 10;
            reversed = reversed * 10 + digit;
            n = n / 10;
         }

         System.out.println(reversed);
      }
   }
}
```

2. Write a program to find if the given number is palindrome or not.

PROGRAM:

```
public class Palindrome{
   public static void main(String[] args){
      int[] a={1234,11211};
      for (int num:a) {
         int org=num;
         int rev=0;
         while (num>0){
```

```
            rev=rev*10+num%10;
            num/=10;
        }
        if (org==rev) {
            System.out.println("Palindrome");
        } else {
            System.out.println("Not a Palindrome");
        }
    }
  }
}
```

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

PROGRAM:

```
public class Div {
   public static void main(String[] args) {
      int count=0;
      int num=1;
      while (count<5) {
         if (num%2==0&&num%3==0&&num%5==0) {
            System.out.println(num);
            count++;
         }
         num++;
      }
   }
}
```

ARRAY

1.Write a program to initialize an integer array and print the sum and average of the array.

PROGRAM:

```
import java.util.Scanner;
public class Arr2large2small {
public static void main(String[] args) {
Scanner sc=new Scanner(System.in);
System.out.print("Enter number of elements: ");
int n=sc.nextInt();
int[]arr=new int[n];
if(n>=2) {
for(int i=0;i<n;i++) {
arr[i]=sc.nextInt();
}
int large=Integer.MIN_VALUE;
int large2=Integer.MIN_VALUE;
int small=Integer.MAX_VALUE;
int small2=Integer.MAX_VALUE;
for(int i=0;i<n;i++) {
int num=arr[i];
if(num>large) {
large2=large;
large=num;
} else if(num>large2&&num!=large) {
large2=num;
}
if(num<small) {
```

```
small2=small;
small=num;
} else if(num<small2&&num!=small) {
small2=num;
}
}
System.out.println("Largest: "+large);
System.out.println("Second Largest: "+large2);
System.out.println("Smallest: "+small);
System.out.println("Second Smallest: "+small2);
}
}
}
```

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

PROGRAM:

```
import java.util.Scanner;
public class Arr2x2 {
    public static void main(String[] args) {
      if (args.length!=4) {
        System.out.println("Please enter 4 integer numbers");
        return;
      }
      int[][]arr=new int[2][2];
      int index=0;
      for(int i=0;i<2;i++) {
```

```
            for(int j=0;j<2;j++) {
                arr[i][j]=Integer.parseInt(args[index]);
                index++;
            }
        }
        System.out.println("The given array is :");
        for(int i=0;i<2;i++) {
            for(int j=0;j<2;j++) {
                System.out.print(arr[i][j]+" ");
            }
            System.out.println();
        }
        System.out.println("The reverse of the array is :");
        for(int i=1;i>=0;i--) {
            for(int j=1;j>=0;j--) {
                System.out.print(arr[i][j]+" ");
            }
            System.out.println();
        }
    }
}
```

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

PROGRAM:

```
import java.util.Scanner;
public class Arr3x3 {
	public static void main(String[] args) {
	  if (args.length != 9) {
	    System.out.println("Please enter 9 integer numbers");
	    return;
	  }
	  int[][]arr=new int[3][3];
	  int index=0;
	  for(int i=0;i<3;i++) {
	    for(int j=0;j<3;j++) {
	      arr[i][j]=Integer.parseInt(args[index]);
	      index++;
	    }
	  }
	  for(int i=0;i<3;i++) {
	    for(int j=0;j<3;j++) {
	      System.out.print(arr[i][j]+" ");
	    }
	    System.out.println();
	  }
	  int max=arr[0][0];
	  for(int i=0;i<3;i++) {
	    for(int j=0;j<3;j++) {
	      if(arr[i][j]>max) {
	        max=arr[i][j];
	      }
	    }
```

```
            }
            System.out.println("The biggest number: "+max);
        }
    }
```

4. Initialize an integer array with ascii values and print the corresponding character values in a single row.

PROGRAM:

```
import java.util.Scanner;
public class ArrAscii {
   public static void main(String[] args) {
      Scanner sc=new Scanner(System.in);
      System.out.print("Enter the number of values: ");
      int n=sc.nextInt();
      int[]a=new int[n];
      System.out.println("Enter the ASCII values:");
      for(int i=0;i<n;i++) {
         a[i]=sc.nextInt();
      }
      for(int i=0;i<n;i++) {
         System.out.print((char)a[i]);
      }
   }
}
```

5.Write a program to initialize an integer array with values and check if a given number is present in the array or not.

PROGRAM:

```
import java.util.Scanner;
public class ArrCheckNum {
        public static void main(String[] args) {
             Scanner sc=new Scanner(System.in);
           System.out.print("Enter the number of elements: ");
           int n=sc.nextInt();
           int[]arr=new int[n];
           for(int i=0;i<n;i++) {
              arr[i]=sc.nextInt();
           }
           System.out.print("Enter the number to search: ");
           int num=sc.nextInt();
           int a=-1;
           for(int i=0;i<n;i++) {
              if(arr[i]==num) {
                 a=i;
                 break;
              }
           }
           System.out.println(a);
        }
     }
```

6.Write a program to remove the duplicate elements in an array and print the same.

PROGRAM:

```
import java.util.Scanner;
public class ArrDuplicate {
        public static void main(String[] args) {
           Scanner sc=new Scanner(System.in);
           System.out.print("Enter number of elements: ");
           int n=sc.nextInt();
           int[]a=new int[n];
           for(int i=0;i<n;i++) {
              a[i]=sc.nextInt();
           }
           for(int i=0;i<n;i++) {
              boolean found=false;
              for(int j=0;j<i;j++) {
                 if(a[i]==a[j]) {
                        found=true;
                    break;
                 }
              }
              if(!found) {
                 System.out.print(a[i] +" ");
              }
           }
        }
```

7.Write a program to initialize an integer array and find the maximum and minimum value of the array.

PROGRAM:

```
import java.util.Scanner;
public class ArrMaxMin {
   public static void main(String[] args) {
      Scanner sc=new Scanner(System.in);
      System.out.print("Enter the number of elements: ");
      int a=sc.nextInt();
      if (a>0) {
         int[]num=new int[a];
         for(int i=0;i<a;i++) {
            num[i]=sc.nextInt();
         }
         int max=num[0];
         int min=num[0];
         for(int i=1;i<a;i++) {
            if(num[i]>max) {
               max=num[i];
            }
            if(num[i]<min) {
               min=num[i];
            }
         }
         System.out.println("Maximum Value: "+max);
         System.out.println("Minimum Value: "+min);
      }
   }
```

```
}
```

8.Write a program to initialize an array and print them in a sorted order.

PROGRAM:

```
import java.util.Scanner;
public class ArrSort {
        public static void main(String[] args) {
           Scanner sc=new Scanner(System.in);
           System.out.print("Enter number of elements: ");
           int n=sc.nextInt();
           int[]arr=new int[n];
           for(int i=0;i<n;i++) {
              arr[i]=sc.nextInt();
           }
           for(int i=0;i<n-1;i++) {
              int a=i;
              for(int j=i+1;j<n;j++) {
                 if(arr[j]<arr[a]) {
                    a=j;
                 }
              }
              int t=arr[i];
              arr[i]=arr[a];
              arr[a]=t;
           }
           System.out.println("Sorted array:");
           for(int i=0;i<n;i++) {
              System.out.print(arr[i]+" ");
```

```
        }
    }
}
```

9. Write a program to initialize an integer array and print the sum and average of the array.

PROGRAM:

```
import java.util.Scanner;
public class ArrSumAvg {
    public static void main(String[] args) {
        Scanner sc=new Scanner(System.in);
        System.out.print("Enter the number of elements: ");
        int a=sc.nextInt();
        int[]num=new int[a];
        int sum=0;
        for (int i=0;i<a;i++) {
            num[i]=sc.nextInt();
            sum+=num[i];
        }
        double avg=(double)sum/a;
        System.out.println("Sum of array elements: "+sum);
        System.out.println("Average of array elements: "+ avg);
    }
}
```

10. Write a program to print the sum of the elements of an array following the given below condition.

PROGRAM:

```
import java.util.Scanner;
```

```
public class ArrSumCon {
    public static void main(String[] args) {
        Scanner sc=new Scanner(System.in);
        System.out.print("Enter number of elements: ");
        int n=sc.nextInt();
        int[]arr=new int[n];
        for(int i=0;i<n;i++) {
            arr[i]=sc.nextInt();
        }
        int sum=0;
        boolean skip=false;
        for(int i=0;i<n;i++) {
            if(arr[i]==6) {
                skip=true;
            } else if(arr[i]==7&&skip) {
                skip=false;
            } else if(!skip) {
                sum=sum+arr[i];
            }
        }
        System.out.println(""+sum);
    }
```

IF STATEMENT

1.Write a program to check if a given integer number is Positive, Negative, or Zero.

Test Case 1 Input : 1 :Output : Positive Number
Test Case 2 Input : -125 :Output : Negative Number
Test Case 3 Input : 0 :Output : Zero

PROGRAM:

```
public class pos{
   public static void main(String[] args){
      int[] a={1,-125,0};
      for (int b:a){
         if (b>0){
            System.out.println("Positive Number");
         } else if(b<0){
            System.out.println("Negative Number");
         } else {
            System.out.println("Zero");
         }
      }
   }
}
```

2. Write a program to check if a given integer number is odd or even.

Test Case 1 Input : 1 Output : Odd Number

Test Case 2 Input : 124 Output : Even Number

PROGRAM:

```
        public class find{
  public static void main(String[] args) {
     int[] a={1,124};
     for (int n:a) {
        if (n%2==0) {
           System.out.println("Even Number");
        } else {
```

```
            System.out.println("Odd Number");
        }
    }
  }
}
```

3. Initialize a character variable with an alphabet in a program.

Test Case 1 If the character value isin lowercase, the output should be displayed in uppercase in the following format. Input : a Output : A

Test Case 2 If the character value isin uppercase, the output should be displayed in lowercase in the following format. Input : A Output : a

PROGRAM:

```
        package IfStatement;
import java.util.Scanner;
public class UpperLower {
public static void main(String[] args) {
        Scanner sc=new Scanner(System.in);
  char ch = sc.next().charAt(0);
        if(ch>='a'&&ch<='z') {
                char upper=(char)(ch-32);
                System.out.println(""+upper);
        }
        else if(ch>='A'&&ch<='Z') {
                char lower=(char)(ch+32);
                System.out.println(""+lower);
        }
        else {
                System.out.println("Invalid");
```

```
        }
        }
}
```

4. Write a program to accept gender ("Male" or "Female") and age and print the percentage of interest based on the given conditions.

Test Case 1 If the gender is 'Female' and age is between 1 and 58, the percentage of interest is 8.2%.

Test Case 2 If the gender is 'Female' and age is between 59 and 100, the percentage of interest is 9.2%.

Test Case 3 If the gender is 'Male' and age is between 1 and 58, the percentage of interest is 8.4%.

Test Case 4 If the gender is 'Male' and age is between 59 and 100, the percentage of interest is 10.5%.

PROGRAM:

```
        package IfStatement;
import java.util.Scanner;
public class GenderInterst {
        public static void main(String[] args) {
                Scanner sc = new Scanner(System.in);
                String gender = sc.next();
                int age = sc.nextInt();
                String g = gender.toLowerCase();
                if(gender.equals("female")) {
                        if(age>=1&&age<=58) {
                                System.out.println("Interest=8.2%");
                        }
                        else if(age>=59&&age<=100) {
```

```
                        System.out.println("Interest=9.2%");
                    }
                    else {
                        System.out.println("Invalid Age");
                    }
                }
                else if(gender.equals("male")){
                    if(age>=1&&age<=58) {
                        System.out.println("Interest=8.2%");
                    }
                    else if(age>=59&&age<=100) {
                        System.out.println("Interest=9.2%");
                    }
                    else {
                        System.out.println("Invalid Age");
                    }
                }
                else {
                    System.out.println("Invalid Gender");
                }
        }
}
```

5. Initialize two character variables in a program and display the characters in alphabetical order.

Test Case 1 If the first character is 's' and second character is 'e' then the output should be e,s

Test Case 2 If the first character is 'a' and second character is 'e', then the output should be a,e

PROGRAM:

```
	package IfStatement;
import java.util.Scanner;
public class ArrangeAlpha {
public static void main(String[] args) {
	Scanner sc=new Scanner(System.in);
	char ch1=sc.next().charAt(0);
	char ch2=sc.next().charAt(0);
	if(ch1>ch2) {
		System.out.println(ch2+","+ch1);
	}
	else {
		System.out.println(ch1+","+ch2);
	}
	}
}
```

6.Initialize a character variable in a program and print the initialized data type

Test Case 1 Print 'Alphabhet' if the initialized value is an alphabhet,

Test Case 2 Print 'Digit' if the initialized value is a number

Test Case 3 Print 'Special Character', if the initialized value is anything else.

PROGRAM:

```
		package IfStatement;
import java.util.Scanner;
public class AlphaDigitSpchar {
	public static void main(String[] args) {
		Scanner scanner=new Scanner(System.in);
		char ch=scanner.next().charAt(0);
		if((ch>='A'&&ch<='Z')||(ch>='a'&&ch<='z')) {
			System.out.println("Alphabhet");
		}
		else if(ch>='0'&&ch<='9') {
			System.out.println("Digit");
		}
		else {
			System.out.println("Special Character");
		}
	}
}
```