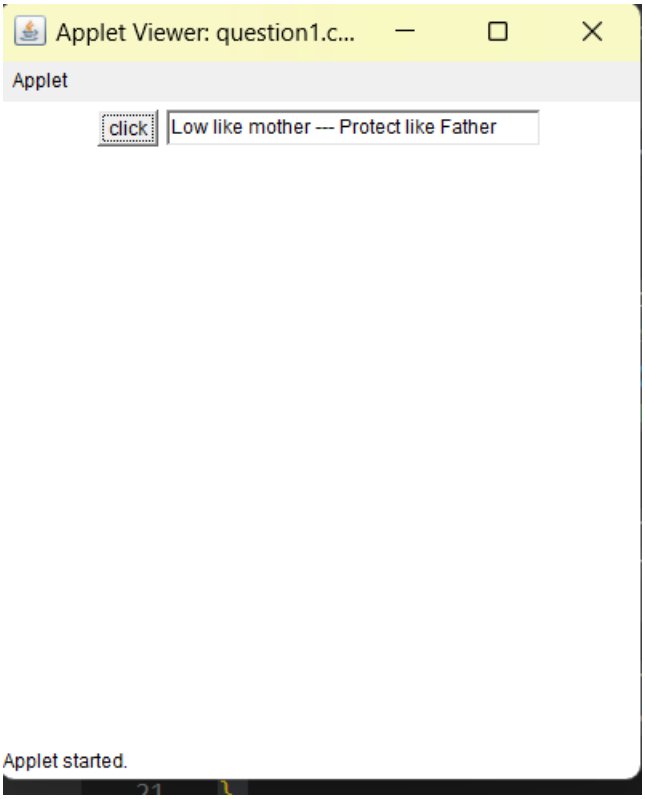
PROGRAMMING IN JAVA

1.
```
import java.awt.*;

import java.awt.event.*;
import java.applet.*;;
public class question1 extends Applet implements ActionListener {
    Button b;
    TextField t;
    public void init() {
          b = new Button("click");
         // b.setBounds(30,40,150,20);
          t = new TextField(30);
         // t.setBounds(80,150,60,50);
         add(b);
         add(t);
         b.addActionListener(this);
         setSize(400,400);
        setVisible(true);
    }
    public void actionPerformed(ActionEvent e) {
        t.setText("Low like mother --- Protect like Father");
    }
}
/*
 <html>
   <body>
     <applet code = "question1.class" width = "700" height = "700">
     </applet>
     </body>
     </html>
 */
```



OUTPUT:

2.
```
import java.io.*;

import java.util.*;
public class question2  {
    public static void main(String args[]) {
        try {
            FileOutputStream fout = new
FileOutputStream("C:/Users/vishn/OneDrive/Desktop/java2/C-Java/Assignment-
5/a.txt");
            FileInputStream fin = new
FileInputStream("C:/Users/vishn/OneDrive/Desktop/java2/C-Java/Assignment-
5/a.txt");
            String s = "Welcome to SSE";
            byte b[] = s.getBytes();
            fout.write(b);
            fout.close();
            int i = 0;
            while((i = fin.read()) != -1) {
            System.out.print((char)i);
            }
            System.out.println();
            fin.close();
            System.out.println("Excecuted!");
        }
        catch(Exception e)
        {
```

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

OUTPUT:

```
t\bin  question2
Welcome to SSE
Excecuted!
PS C:\Users\vishn>
```

3.

```
import java.util.*;

class question3 {
    public static void main(String args[]) {
        Scanner s = new Scanner(System.in);
        System.out.println("enter number of elements :");
        int n = s.nextInt();
        int a[] = new int[n];
        System.out.println("elements are:");
        for(int i=0;i<n;i++) {
            a[i] = s.nextInt();
        }
        int prime = 0,compo = 0;
        for(int i=0;i<n;i++) {
              if(isprime(a[i])) {
                prime++;
              }
              else
              compo++;
        }
        System.out.println("prime numbers:"+prime);
        System.out.println("composite numbers:"+compo);
    }
        public static boolean isprime(int n) {
            if(n <= 1)
                return false;
            for(int i=2;i<=Math.sqrt(n);i++) {
                if(n % 1 == 0)
                    return false;
            }
            return true;
        }
}
```

OUTPUT:

```
t\bin' 'question3'
enter number of elements :
5
elements are:
3
4
5
2
2
prime numbers:3
composite numbers:2
PS C:\Users\vishn>
```

4.
```java
import java.util.*;

class question4 {
    public static void main(String atrgs[]) {
        Scanner s = new Scanner(System.in);
        System.out.println("enter number of elements in array:");
        int n = s.nextInt();
        int M,N;
        int a[] = new int[n];
        System.out.println("elements are:");
        for(int i=0;i<n;i++) {
            a[i] = s.nextInt();
        }
        Arrays.sort(a);
        System.out.println("enter M:");
        M = s.nextInt();
        System.out.println("enter N:");
        N = s.nextInt();
        System.out.println(M+" th maximum of an array:"+ a[n - M]);
        System.out.println(N+" th minimum of an array:"+ a[N-1]);

    }
}
```

OUTPUT:

```
enter number of elements in array:
3
elements are:
1
2
3
enter M:
2
enter N:
2
2 th maximum of an array:2
2 th minimum of an array:2
```

5.
```java
import java.util.*;

class thread1 implements Runnable {
   public void run(){
    Scanner s = new Scanner(System.in);
    System.out.println("enter number:");
    int n = s.nextInt();
    int count=0,i;
        for(i=2;i<=n/2;i++) {
            if(n % i == 0) {
                count++;
                break;
            }
        }
        if(count == 0)
        System.out.println( n+" is prime number:");
        else
        System.out.println( n+" is not prime number:");
    }
}
    class question5 {
        public static void main(String args[]) {
           Thread t = new Thread(new thread1());
           t.start();
    }
}
```

OUTPUT:

```
enter number:
5
5 is prime number:
PS C:\Users\vishn>
```

6

```java
import java.util.*;
 class question6 {
    public static void main(String arhs[]) {
        Scanner s = new Scanner(System.in);
        int n1=0,n2=0,n3=0,n4=0;
        System.out.println("enter the character:");
        while(true) {
            char c = s.next().charAt(0);
             if(c == '*')
             {
                break;
             }
```

```
            else if(c >= 'A' && c <= 'Z') {
               n1++;
            }
            else if(c >='a' && c <= 'z')
            {
               n2++;
            }
            else if(c >= '1' && c <= '9') {
               n3++;
            }
            else {
               n4++;
            }
        }
        System.out.println("number of uppercase characters:" + n1);
        System.out.println("number of lowercase characters:" + n2);
        System.out.println("number of digits:" + n3);
        System.out.println("number of special characters:" + n4);
    }
}
```

OUTPUT:

```
t\bin' 'question6'
enter the character:
S
A
D
*
number of uppercase characters:3
number of lowercase characters:0
number of digits:0
number of special characters:0
PS C:\Users\vishn>
```

7.

```
import java.util.*;

class question7 {
    public static void main(String args[]) {
        int n,i;
        Scanner s = new Scanner(System.in);
        int positivenum[] = new int[20];
        int negativenum[] = new int[20];
        double pavg,navg;
        int sum=0,sum1=0;
        int pcount=0,ncount=0;
        while(true) {
            System.out.println("enter charactcer:");
            n = s.nextInt();
            if(n == -1)
            break;
```

```
            else if(n > 0) {
                positivenum[pcount] = n;
                pcount++;
            }
            else {
                negativenum[ncount] = n;
                ncount++;
            }
        }
        if(pcount > 0) {
            for( i=0;i<pcount;i++) {
                sum +=positivenum[i];
            }
            pavg = sum / pcount;
            System.out.println("average of positive numbers:"+pavg);
        }
        if(ncount > 0) {
            for(i=0;i<ncount;i++) {
                sum1 +=negativenum[i];
            }
            navg = sum1 / ncount;
            System.out.println("average of negative numbers:"+navg);
        }

    }
}
```

OUTPUT:

```
enter chararcter:
2
enter chararcter:
2
enter chararcter:
2
enter chararcter:
2
enter chararcter:
-1
average of positive numbers:2.0
PS C:\Users\vishn>
```

8.

```
import java.util.*;

class question8 {
    public static void main(String args[]) {
        Scanner s = new Scanner(System.in);
        int m1,m2,m3,m4;
        int total=0;
        double agg;
```

```
        System.out.println("enter the marks in python:");
        m1 = s.nextInt();
        System.out.println("enter the marks in C:");
        m2 = s.nextInt();
        System.out.println("enter the marks in Maths:");
        m3 = s.nextInt();
        System.out.println("enter the marks in Physics:");
        m4 = s.nextInt();
        total = m1 + m2 + m3 + m4;
        agg  = total / 4.0;
        System.out.println("Total marks:" + total);
        System.out.println("aggregate marks :"+agg);
    }
}
```

OUTPUT:

```
t\bin' 'question8'
enter the marks in python:
90
enter the marks in C:
91
enter the marks in Maths:
91
enter the marks in Physics:
92
Total marks:364
aggregate marks :91.0
PS C:\Users\vishn>
```

9.

```
import java.util.*;

class question10 {
    public static void main(String args[]) {
        Scanner s = new Scanner(System.in);
        int n;
        double bonus,sal;
        System.out.println("enter grade of the employee:");
        char c = s.next().charAt(0);
        System.out.println("enter salary:");
        n = s.nextInt();
        if(c == 'A') {
             bonus = n * 0.05;
             sal = n + bonus;
            System.out.println("total salary of employee:"+sal);
        }
        else if(c == 'B') {
            bonus = n * 0.1;
            sal = n + bonus;
            System.out.println("total salary of employee:"+sal);
        }
```

```
        else if( c == 'A' && n < 10000) {
            bonus = n * 0.02;
            sal = n + bonus;
            System.out.println("total salary of employee:"+sal);
        }
        else if( c == 'B' && n < 10000) {
            bonus = n * 0.02;
            sal = n + bonus;
            System.out.println("total salary of employee:"+sal);
        }
        else {
            System.out.println(n);
        }
    }
}
```

OUTPUT:

```
t\bin  question10
enter grade of the employee:
A
enter salary:
50000
total salary of employee:52500.0
PS C:\Users\vishn>
```

10.

```
import java.util.*;

public class question9 {

    public static boolean isPerfect(int n) {
        int sum = 0;
        for (int i = 1; i <= n/2; i++) {
            if (n % i == 0) {
                sum += i;
            }
        }
        return (sum == n);
    }

    public static void main(String[] args) {
        Scanner c = new Scanner(System.in);
        System.out.print("Enter the value of n: ");
        int n = sc.nextInt();
        int count = 0;
        int num = 2;
        while (count < n) {
            if (isPerfect(num)) {
                System.out.println(num);
                count++;
```

```
            }
            num++;
        }
    }
}
```

OUTPUT:

```
C:\Users\vishn\OneDrive\Desktop\java2\C-Java\Assignment-5>javac question9.ja
va

C:\Users\vishn\OneDrive\Desktop\java2\C-Java\Assignment-5>java question9
Enter the value of n: 3
6
28
496
```

11.
```
class thread1 extends Thread {

    public void run() {
        for(int i=1;i<=5;i++) {
            System.out.println(i+"*"+5+"="+(i*2));
        }
    }
}
class thread2 extends Thread {
    public void run() {
        for(int i=1;i<=10;i++) {
            System.out.println(i+"*"+10+"="+(i*10));
        }
    }
}
class A3q2 {
    public static void main(String args[]) {
        thread1 t1 = new thread1();
        thread2 t2 = new thread2();
        t1.setPriority(Thread.MAX_PRIORITY);
        t1.start();
        t2.start();
        }
}
```

OUTPUT :

```
le2
1*5=2
2*5=4
1*10=10
3*5=6
2*10=20
4*5=8
3*10=30
5*5=10
4*10=40
5*10=50
6*10=60
7*10=70
8*10=80
9*10=90
10*10=100
```