```
1
2  import java.util.Scanner;
3  import java.util.InputMismatchException;
4  class Calculator
5  {
6
7      public void add(float a,float b, float c)
8      {
9          System.out.println(a+"+"+b+"+"+c+"="+
   (a+b+c));
10     }
11     public void add(float a,float b)
12     {
13         System.out.println(a+"+"+b+"="+(a+b));
14     }
15
16
17     public void subtract(float a,float b, float
   c)
18     {
19         System.out.println(a+"-"+b+"-"+c+"="+
   (a-b-c));
20     }
21     public void subtract(float a,float b)
22     {
23         System.out.println(a+"-"+b+"="+(a-b));
24     }
25
26
27     public void product(float a,float b)
28     {
29         System.out.println(a+"*"+b+"="+(a*b));
30     }
31
32
33     public void division(float a,float b)
34     {
35         System.out.println(a+"/"+b+"="+(a/b));
36     }
37 }
38 public class Main
39 {
40     public static void main (String[] args) {
41         Calculator cal=new Calculator();
42         Scanner sc=new Scanner(System.in);
43         System.out.println("Author:  B.Vishnu
   priya\nSAP ID:51834736");
```

```
44          {
45              System.out.println("1. ADD\n2.
    SUBTRACt\n3. MULTIPLICATION\n4. DIVISION\n5.
    EXIT\nEnter your choice: ");
46              int op=sc.nextInt();
47              switch(op)
48              {
49                  case 0:
50
    System.out.println("Exit...");
51                      System.exit(0);
52                      break;
53                  case 1:
54                      System.out.print("Enter
    operand 1: ");
55                      float add1=sc.nextFloat();
56                      System.out.print("Enter
    operand 2: ");
57                      float add2=sc.nextFloat();
58                      System.out.print("Enter
    operand 3(if you want. else enter 0): ");
59                      float add3=sc.nextFloat();
60                      if(add3==0)
61                      {
62                          cal.add(add1, add2);
63                      }
64                      else
65                      {
66                          cal.add(add1, add2,
    add3);
67                      }
68                      break;
69                  case 2:
70                     System.out.print("Enter
    operand 1: ");
71                      float sub1=sc.nextFloat();
72                      System.out.print("Enter
    operand 2: ");
73                      float sub2=sc.nextFloat();
74                      System.out.print("Enter
    operand 3(if you want. else enter 0): ");
75                      float sub3=sc.nextFloat();
76                      if(sub3==0)
77                      {
78                          cal.subtract(sub1,
    sub2);
79                      }
```

```
79                      }
80                      else
81                      {
82                          cal.subtract(sub1, sub2,
    sub3);
83                      }
84                      break;
85                  case 3:
86                      System.out.print("Enter
    operand 1: ");
87                      float mul1=sc.nextFloat();
88                      System.out.print("Enter
    operand 2: ");
89                      float mul2=sc.nextFloat();
90                      cal.product(mul1,mul2);
91                      break;
92                  case 4:
93                      System.out.print("Enter
    operand 1: ");
94                      float div1=sc.nextFloat();
95                      System.out.print("Enter
    operand 2: ");
96                      float div2=sc.nextFloat();
97                      if(div2==0)
98                      {
99                          throw new
    ArithmeticException("Number cannot be divided by
    zero!!");
100                     }
101                     cal.division(div1,div2);
102                     break;
103                 default:
104                     System.out.println("Invalid
    choice: ");
105             }
106         }
107         catch(InputMismatchException ime)
108         {
109             System.out.println("You have entered
    input of wrong datatype!!");
110         }
111         catch(ArithmeticException ae)
112         {
113             System.out.println(ae.getMessage());
114         }
115     }
116 }
```

```
Author: B.Vishnu priya
SAP ID:51834736
1. ADD
2. SUBTRACt
3. MULTIPLICATION
4. DIVISION
5. EXIT
Enter your choice:
3
Enter operand 1: 25
Enter operand 2: 30
25.0*30.0=750.0

Process finished.
```

```java
public class Main
{
 public static boolean isPalindrome(String string, int low, int high)
 {
  if (low >= high) {
   return true;
  }

  if (string.charAt(low) != string.charAt(high)) {
   return false;
  }

  return isPalindrome(string, low + 1, high - 1);
 }

 public static void main(String[] args)
 {
  String string = "madam";

  if (isPalindrome(string, 0, string.length() - 1)) {
   System.out.println("Author:B.Vishnu priya \nSAP ID:51834736");
   System.out.print("given String is Palindrome");
  } else {
   System.out.print("given String is Not Palindrome");
  }
 }
}
```

```
Author: B.Vishnu priya
SAP ID:51834736
given String is Palindrome
Process finished.
```

```java
import java.util.*;
public class Main
{
  public static void main (String[] args)
  {
    System.out.println("Author :B.Vishnu priya \n SAP ID:51834736");
    int count=0;
    int rem=0 ;
    Scanner sc=new Scanner(System.in);
    System.out.println("enter a number :");
    int n= sc.nextInt();
    while(n>0)
    {
      rem=n%10;
      if(rem%2!=0)
      {
        count++;
      }
      n=n/10;

    }
    System.out.println("no of odd digits in number are ; "+count);

  }
}
```

```
Author :B.Vishnu priya
 SAP ID:51834736
enter a number :
3579
no of odd digits in number are ; 4

Process finished.
```

```java
import java.util.Arrays;

class Main
{
 public static void swap(int[] arr, int a, int b)
 {
  int temp = arr[a];
  arr[a] = arr[b];
  arr[b] = temp;
 }

 public static void bubbleSort(int[] arr, int m)
 {
  for (int a = 0; a < m - 1; a++) {
   if (arr[a] > arr[a + 1]) {
    swap(arr, a, a + 1);
   }
  }
  if (m - 1 > 1) {
   bubbleSort(arr, m - 1);
  }
 }

 public static void main(String[] args)
 {
  int[] arr = { 5, 1, 7, 9, 8, 0, 2 };

  bubbleSort(arr, arr.length);

  System.out.println("Author:B.Vishnu priya\n SAP
ID:51834736");
  System.out.println(Arrays.toString(arr));
 }
}
```

```
Author:B.Vishbu priya
 SAP ID:51834736
[0, 1, 2, 5, 7, 8, 9]

Process finished.
```