```java
import java.util.Scanner;
import java.util.InputMismatchException;
class Calculator
{

    public void add(float a,float b, float c)
    {
        System.out.println(a+"+"+b+"+"+c+"="+(a
    }
    public void add(float a,float b)
    {
        System.out.println(a+"+"+b+"="+(a+b));
    }


    public void subtract(float a,float b, float
    {
        System.out.println(a+"-"+b+"-"+c+"="+(a
    }
    public void subtract(float a,float b)
    {
        System.out.println(a+"-"+b+"="+(a-b));
    }


    public void product(float a,float b)
    {
        System.out.println(a+"*"+b+"="+(a*b));
    }


    public void division(float a,float b)
    {
        System.out.println(a+"/"+b+"="+(a/b));
    }
}
public class Main
{
    public static void main (String[] args) {
        Calculator cal=new Calculator();
        Scanner sc=new Scanner(System.in);
        System.out.println("Author:M.Hema Vardh
        m.out.println("SAP ID:51834
```

```java
44          try
45          {
46              System.out.println("1. ADD\n2. SUBT
47              int op=sc.nextInt();
48              switch(op)
49              {
50                  case 0:
51                      System.out.println("Exit...
52                      System.exit(0);
53                      break;
54                  case 1:
55                      System.out.print("Enter ope
56                      float add1=sc.nextFloat();
57                      System.out.print("Enter ope
58                      float add2=sc.nextFloat();
59                      System.out.print("Enter ope
60                      float add3=sc.nextFloat();
61                      if(add3==0)
62                      {
63                          cal.add(add1, add2);
64                      }
65                      else
66                      {
67                          cal.add(add1, add2, add
68                      }
69                      break;
70                  case 2:
71                      System.out.print("Enter oper
72                      float sub1=sc.nextFloat();
73                      System.out.print("Enter ope
74                      float sub2=sc.nextFloat();
75                      System.out.print("Enter ope
76                      float sub3=sc.nextFloat();
77                      if(sub3==0)
78                      {
79                          cal.subtract(sub1, sub2
80                      }
81                      else
82                      {
83                          cal.subtract(sub1, sub2
84                      }
85                      break;
86                  case 3:
                        System.out.print("En
                        float mul1=sc.nextFl
                        System
```

```
RACt\n3. MULTIPLICATION\n4. DIVISION\n5. EXIT\n

");



rand 1: ");

rand 2: ");

rand 3(if you want. else enter 0): ");




3);



and 1: ");

rand 2: ");

rand 3(if you want. else enter 0): ");



);



, sub3);
```

```
45
46    N\n4. DIVISION\n5. EXIT\nEnter your choice: ");
47
48
49
50
51
52
53
54
55
56
57
58
59    se enter 0): ");
60
61
62
63
64
65
66
67
68
69
70
71
72
73
74
75    se enter 0): ");
76
77
78
79
80
81    N\n4. DIVISION\n5. EXIT\nEnter your choice: ");
82
83
84
85
86
```

```java
                        {
                            cal.subtract(sub1, sub
                        }
                        break;
                    case 3:
                        System.out.print("Enter op
                        float mul1=sc.nextFloat();
                        System.out.print("Enter op
                        float mul2=sc.nextFloat();
                        cal.product(mul1,mul2);
                        break;
                    case 4:
                        System.out.print("Enter op
                        float div1=sc.nextFloat();
                        System.out.print("Enter op
                        float div2=sc.nextFloat();
                        if(div2==0)
                        {
                            throw new ArithmeticEx
                        }
                        cal.division(div1,div2);
                        break;
                    default:
                        System.out.println("Invali
                }
            }
            catch(InputMismatchException ime)
            {
                System.out.println("You have enter
            }
            catch(ArithmeticException ae)
            {
                System.out.println(ae.getMessage()
            }
        }
}
```

```
82
83    sub3);
84
85
86
87  ·and 1: ");
88
89  ·and 2: ");
90
91
92
93
94  ·and 1: ");
95
96  ·and 2: ");
97
98
99
100 eption("Number cannot be divided by zero!!");
101
102
103
104
105  choice: ");
106
107
108
109
110 i input of wrong datatype!!");
111
112
113
114
115
116
117
```

⋮ File info ⓘ   ▶

```
Author:M.Hema Vardhini
SAP ID:51834505
1. ADD
2. SUBTRACt
3. MULTIPLICATION
4. DIVISION
5. EXIT
Enter your choice:
3
Enter operand 1: 25
Enter operand 2: 28
25.0*28.0=700.0

Process finished.
```

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

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

        return isPalindrome(string, low + 1, high
    }

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

        if (isPalindrome(string, 0, string.length
            System.out.println("Author:M.Hema Var
            System.out.println("SAP ID:51834505")
            System.out.print("given String is Pal
        } else {
            System.out.print("given String is Not
        }
    }
}
```

```java
n isPalindrome(String string, int low, int high)

    {




t(low) != string.charAt(high)) {




ome(string, low + 1, high - 1);


ain(String[] args)

'madam";

(string, 0, string.length() - 1)) {
intln("Author:M.Hema Vardhini");
intln("SAP ID:51834505");
int("given String is Palindrome");

int("given String is Not Palindrome");
```

```
Author:M.Hema Vardhini
SAP ID:51834505
given String is Palindrome
Process finished.
```

```java
import java.util.*;
public class Main
{
  public static void main (String[] args)
  {
    System.out.println("Author :M.Hema Vardhini
    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 numb

  }
}
```

```
1
2
3
4  main (String[] args)
5
6  n("Author :M.Hema Vardhini \n SAP ID:51834505")
7
8
9  anner(System.in);
10 n("enter a number :");
11 ();
12
13
14
15
16
17
18
19
20
21
22 n("no of odd digits in number are ; "+count);
23
24
25
```

```
Author :M.Hema Vardhini
 SAP ID:51834505
enter a number :
25827285
no of odd digits in number are ; 3

Process finished.
```

```java
import java.util.Arrays;

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

    public static void bubbleSort(int[] arr, int
    {
        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:M.Hema Vardhir
        System.out.println("SAP ID:51834505");
        System.out.println(Arrays.toString(arr));
    }
}
```

```java
t java.util.Arrays;

; Main

ublic static void swap(int[] arr, int a, int b)

    int temp = arr[a];
    arr[a] = arr[b];
    arr[b] = temp;


ublic 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);
    }


ublic static void main(String[] args)

    int[] arr = { 5, 1, 7, 9, 8, 0, 2 };

    bubbleSort(arr, arr.length);

    System.out.println("Author:M.Hema Vardhini");
    System.out.println("SAP ID:51834505");
    System.out.println(Arrays.toString(arr));
```

```
Author:M.Hema Vardhini
SAP ID:51834505
[0, 1, 2, 5, 7, 8, 9]

Process finished.
```