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1st answer

```java
1   import java.util.Scanner;
2   import java.util.InputMismatchException;
3   class Calculator
4   {
5
6       public void add(float a,float b, float c)
7       {
8           System.out.println(a+"+"+b+"+"+c+"="+
9               (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,
18       float c)
19      {
20          System.out.println(a+"-"+b+"-"+c+"="
21          +(a-b-c));
22      }
23      public void subtract(float a,float b)
24      {
25          System.out.println(a+"-"+b+"="+(a-b));
26      }
27
28
29      public void product(float a,float b)
30      {
31          System.out.println(a+"*"+b+"="+(a*b));
32      }
33
34
35      public void division(float a,float b)
36      {
37          System.out.println(a+"/"+b+"="+(a/b));
38      }
39  }
```

```java
public class Main
{
    public static void main (String[] args) {
        Calculator cal=new Calculator();
        Scanner sc=new Scanner(System.in);
        System.out.println("Author: S.Nithin
         \nSAP ID:51834789");
        try
        {
            System.out.println("1. ADD\n
            2. SUBTRACt\n3. MULTIPLICATION\n4.
            int op=sc.nextInt();
            switch(op)
            {
                case 0:
                    System.out.println
                    ("Exit...");
                    System.exit(0);
                    break;
                case 1:
                    System.out.print
                    ("Enter operand 1: ");
                    float add1=sc.nextFloat();
                    System.out.print
                    ("Enter operand 2: ");
                    float add2=sc.nextFloat();
                    System.out.print
                    ("Enter operand 3(if you wa
                    float add3=sc.nextFloat();
                    if(add3==0)
                    {
                        cal.add(add1, add2);
                    }
                    else
                    {
                        cal.add(add1, add2,
                         add3);
                    }
                    break;
```

```java
            case 2:
                System.out.print
                ("Enter operand 1: ");
                float sub1=sc.nextFloat();
                System.out.print
                ("Enter operand 2: ");
                float sub2=sc.nextFloat();
                System.out.print
                ("Enter operand 3
                (if you want. else enter 0)
                float sub3=sc.nextFloat();
                if(sub3==0)
                {
                    cal.subtract
                    (sub1, sub2);
                }
                else
                {
                    cal.subtract
                    (sub1, sub2, sub3);
                }
                break;
            case 3:
                System.out.print
                ("Enter operand 1: ");
                float mul1=sc.nextFloat();
                System.out.print
                ("Enter operand 2: ");
                float mul2=sc.nextFloat();
                cal.product(mul1,mul2);
                break;
            case 4:
                System.out.print
                ("Enter operand 1: ");
                float div1=sc.nextFloat();
                System.out.print
                ("Enter operand 2: ");
                float div2=sc.nextFloat();
                if(div2==0)
```

```java
                    case 4:
                        System.out.print
                        ("Enter operand 1: ");
                        float div1=sc.nextFloat();
                        System.out.print
                        ("Enter operand 2: ");
                        float div2=sc.nextFloat();
                        if(div2==0)
                        {
                            throw new
                            ArithmeticException
                            ("Number cannot be
                            divided by zero!!");
                        }
                        cal.division(div1,div2);
                        break;
                    default:
                        System.out.println
                        ("Invalid choice: ");
                }
            }
        catch(InputMismatchException ime)
        {
            System.out.println
            ("You have entered input of
             wrong datatype!!");
        }
        catch(ArithmeticException ae)
        {
            System.out.println(ae.getMessage())
        }
    }
```

```
Author: S.Nithin
SAP ID:51834789
1. ADD
2. SUBTRACt
3. MULTIPLICATION
4. DIVISION
5. EXIT
Enter your choice:
1
Enter operand 1: 3
Enter operand 2: 4
Enter operand 3(if you want. else enter 0)
3.0+4.0=7.0


Process finished.
```

2nd Answer :

```java
1  public class Main
2  {
3    public static boolean isPalindrome(String
4    string,
5    int low, int high)
6    {
7      if (low >= high) {
8        return true;
9      }
10
11     if (string.charAt(low) != string.charAt
12     (high)) {
13       return false;
14     }
15
16     return isPalindrome(string, low + 1,
17      high - 1);
18   }
19
20   public static void main(String[] args)
21   {
22     String string = "nitin";
23
24     if (isPalindrome(string, 0, string.length()
25       System.out.println("Author:S.Nithin \nSAP
26       System.out.print
27       ("given String is Palindrome");
28     } else {
29       System.out.print
30       ("given String is Not Palindrome");
31     }
32   }
33 }
```

| ✕ | Terminal | ❐ |

```
Author:S.Nithin
SAP ID:51834789
given String is Palindrome
Process finished.
```

3rd answer

```java
import java.util.*;
public class Main
{
  public static void main (String[] args)
  {
    System.out.println("Author :S.Nithin
    \n SAP ID:51834789");
    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 :D.Nithin
 SAP ID:51834789
enter a number :
2
no of odd digits in number are ; 0

Process finished.
```

5ᵗʰ answer

```java
1    import java.util.Arrays;
2
3    class Main
4    {
5        public static void swap
6        (int[] arr, int a, int b)
7        {
8            int temp = arr[a];
9            arr[a] = arr[b];
10           arr[b] = temp;
11       }
12
13       public static void
14       bubbleSort(int[] arr, int m)
15       {
16           for (int a = 0; a < m - 1; a++) {
17               if (arr[a] > arr[a + 1]) {
18                   swap(arr, a, a + 1);
19               }
20           }
21           if (m - 1 > 1) {
22               bubbleSort(arr, m - 1);
23           }
24       }
25
26       public static void main(String[] args)
27       {
28           int[] arr = { 5, 1, 7, 9, 8, 0, 2 };
29
30           bubbleSort(arr, arr.length);
31
32           System.out.println("Author:S.Nithin \n
33           System.out.println(Arrays.toString(arr)
34       }
35   }
```

✕   Terminal   ⧉

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 SAP ID:51834789
[0, 1, 2, 5, 7, 8, 9]

Process finished.