



```
1  /*Program to execute the calculator using overloading*/
2  import java.util.Scanner;
3  import java.lang.Math;
4  import java.util.InputMismatchException;
5  class CalculatorOverLoading
6  {
7
8      int add(int no1,int no2)
9      {
10         return no1+no2;
11     }
12     double add(double no1,double no2)
13     {
14         return no1+no2;
15     }
16     float add(float no1,float no2)
17     {
18         return no1+no2;
19     }
20     int sub(int no1,int no2)
21     {
22         return no1-no2;
23     }
24     double sub(double no1,double no2)
25     {
26         return no1-no2;
27     }
28     float sub(float no1,float no2)
29     {
30         return no1-no2;
31     }
32     int mul(int no1,int no2)
33     {
34         return no1*no2;
35     }
36     double mul(double no1,double no2)
37     {
38         return no1*no2;
39     }
40     float mul(float no1,float no2)
41     {
42         return no1*no2;
```

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43     }
44     int div(int no1,int no2)
45     {
46         return no1/no2;
47     }
48     double div(double no1,double no2)
49     {
50         return no1/no2;
51     }
52     float div(float no1,float no2)
53     {
54         return no1/no2;
55     }
56     long power(int no1,int no2) throws Exception
57     {
58         if(no1<0 || no2<0)
59         {
60             throw new Exception("no1 or no2 can't be negative");
61         }
62         if(no1==0 || no2==0)
63         {
64             throw new Exception("no1 or no2 can't be zero");
65         }
66         return (long)Math.pow(no1,no2);
67     }
68 }
69 class Problem
70 {
71     public static void main(String args[])
72     {
73         System.out.println("R.Tarun sai Java-1 SAP ID =51834698");
74         Scanner sc=new Scanner(System.in);
75         CalculatorOverLoading c=new CalculatorOverLoading();
76
77         try
78         {
79             while(true)
80             {
81
82                 System.out.println("Choose your option\n1.add\n2.subtract\n3.m
83                 int option=sc.nextInt();
84                 switch(option)

```

```

85     {
86         case 1 :
87             System.out.println("Enter first number : ");
88             double first=sc.nextInt();
89             System.out.println("Enter second number : ");
90             double second=sc.nextInt();
91             System.out.println(first+"+"+second+"="+c.add(first,second));
92             break;
93         case 2 :
94             System.out.println("Enter first number : ");
95             first=sc.nextInt();
96             System.out.println("Enter second number : ");
97             second=sc.nextInt();
98             System.out.println(first+"-"+second+"="+c.sub(first,second));
99             break;
100        case 3 :
101            System.out.println("Enter first number : ");
102            first=sc.nextInt();
103            System.out.println("Enter second number : ");
104            second=sc.nextInt();
105            if(first==0 && second==0)
106            {
107                throw new Exception("Both numbers cannot be 0 while multipl
108            }
109            System.out.println(first+"*"+second+"="+c.mul(first,second));
110            break;
111        case 4 :
112            System.out.println("Enter first number : ");
113            first=sc.nextInt();
114            System.out.println("Enter second number : ");
115            second=sc.nextInt();
116            if(second==0)
117            {
118                throw new Exception("You cannot divide a number with 0");
119            }
120            System.out.println(first+"/"+second+"="+c.div(first,second));
121            break;
122        case 5 :
123            System.out.println("Enter the base number : ");
124            int base=sc.nextInt();
125            System.out.println("Enter the exponent : ");
126            int exp=sc.nextInt();

```

```
127     System.out.println(c.power(base,exp));
128     break;
129 case 6 :
130     System.exit(0);
131 default :
132     System.out.println("Invalid input");
133 }
134 }
135 }
136 catch(InputMismatchException i)
137 {
138     System.out.println("Invalid input");
139 }
140 catch(ArithmeticException ae)
141 {
142     System.out.println(ae.getMessage());
143 }
144 catch(Exception e)
145 {
146     System.out.println(e.getMessage());
147 }
148 }
149 }
```


× Terminal



R.Tarun sai Java-1 SAP ID =51834698

Choose your option

1.add

2.subtract

3.multiply

4.Division

5.power

6.exit

4

Enter first number :

890

Enter second number :

0

You cannot divide a number with 0

Process finished.



R.Tarun sai Java-1 SAP ID =51834698

Choose your option

- 1.add
- 2.subtract
- 3.multiply
- 4.Division
- 5.power
- 6.exit

1

Enter first number :

467

Enter second number :

7998

467.0+7998.0=8465.0

Choose your option

- 1.add
- 2.subtract
- 3.multiply
- 4.Division
- 5.power
- 6.exit

6

Process finished.



2nd question 22 july.java



Saved

```
1  /*2nd question Palindrome check through recursion*/
2  import java.util.Scanner;
3  class PalindromeCheck
4  {
5      public static boolean isPal(String s)
6      {
7          if(s.length() == 0 || s.length() == 1)
8              return true;
9          if(s.charAt(0) == s.charAt(s.length()-1))
10             return isPal(s.substring(1, s.length()-1));
11             return false;
12     }
13     public static void main(String[]args)
14     {
15         System.out.println("Tarun sai java -1 SAP =51834698");
16         Scanner scr= new Scanner(System.in);
17         System.out.println("Enter the String to check:");
18         String string = scr.nextLine();
19         System.out.println("Output: ");
20         if(isPal(string))
21             System.out.println(string + " is a palindrome");
22         else
23             System.out.println(string + " is not a palindrome");
24     }
25 }
```



Tarun sai java -1 SAP =51834698

Enter the String to check:

Corona

Output:

Corona is not a palindrome

Process finished.



Tarun sai java -1 SAP =51834698

Enter the String to check:


5225

Output:

5225 is a palindrome

Process finished.



3rd question odd digits.java 

Saved



```
1 import java.util.*;
2 public class OddNumbers
3 {
4     public static void main (String[] args)
5     {
6         System.out.println("Author : Tarun Sai");
7         System.out.println("SAP : 51834698");
8         int count=0;
9         int rem=0 ;
10        Scanner sc=new Scanner(System.in);
11        System.out.println("Enter a number: ");
12        int n= sc.nextInt();
13
14        while(n>0)
15        {
16            rem=n%10;
17            if(rem%2!=0)
18            {
19                count++;
20            }
21            n=n/10;
22
23        }
24
25        System.out.println("odd numbers: "+count);
26
27    }
28 }
```



Terminal



Author : Tarun Sai

SAP : 51834698

Enter a number:

57844689

odd numbers: 3

Process finished.



```
1  /*Pattern 4th question*/
2  class PatternNumbers
3  {
4      public static void main(String args[])
5      {
6          System.out.println("Tarun sai ,SAP =51834698");
7          int k=1;
8          for(int i=1;i<=5;i++)
9          {
10             for(int j=1;j<=i;j++)
11             {
12                 if(j==1)
13                 {
14                     k=j;
15                 }
16                 if(i!=4)
17                 {
18                     if(i%2==0)
19                     {
20                         if(j%2!=0)
21                         {
22                             k=j+1;
23                             System.out.print(k);
24                             k=k-1;
25                         }
26                         else
27                         {
28                             System.out.print(k);
29                         }
30                     }
31                     else
32                     {
33                         if(j%2==0)
34                         {
35                             k=j+1;
36                             System.out.print(k);
37                             k=k-1;
38                         }
39                         else
40                         {
41                             System.out.print(k);
42                         }

```

```
43     }
44     }
45     else
46     {
47         System.out.print(j);
48     }
49 }
50 System.out.println();
51 }
52 }
53 }
```



Terminal



Tarun sai ,SAP =51834698

1

21

132

1234

13254

Process finished.





```
1  import java.util.*;
2  public class Test
3  {
4      static void bubbleSort(int arr[], int n)
5      {
6          if (n == 1)
7              return;
8          for (int i=0; i<n-1; i++)
9              if (arr[i] > arr[i+1])
10             {
11                 int temp = arr[i];
12                 arr[i] = arr[i+1];
13                 arr[i+1] = temp;
14             }
15         bubbleSort(arr, n-1);
16     }
17     public static void main(String[] args)
18     { Scanner s = new Scanner(System.in);
19         System.out.println("Tarun sai SAP =51834698");
20         System.out.println("Enter the size of the array:");
21         int length = s.nextInt();
22         int [] arr = new int[length];
23         System.out.println("Enter the elements: ");
24
25         for(int i=0; i<length; i++ ) {
26             arr[i] = s.nextInt();
27         }
28         bubbleSort(arr, arr.length);
29
30         System.out.println("Bubble Sorted Array: ");
31         System.out.println(Arrays.toString(arr));
32     }
33 }
```



Terminal



Tarun sai SAP =51834698

Enter the size of the array:

6

Enter the elements:

67 7907 4689 2578 467 -68

Bubble Sorted Array:

[-68, 67, 467, 2578, 4689, 7907]

Process finished.