

```
1 import java.util.Scanner;
2 import java.lang.Math;
3 import java.util.InputMismatchException;
4 class Calculator
5 {
6     int add(int a,int b)
7     {
8         return a+b;
9     }
10    double add(double a,double b)
11    {
12        return a+b;
13    }
14    float add(float a,float b)
15    {
16        return a+b;
17    }
18    int sub(int a,int b)
19    {
20        return a-b;
21    }
22    double sub(double a,double b)
23    {
24        return a-b;
25    }
26    float sub(float a,float b)
27    {
28        return a-b;
29    }
30    int mul(int a,int b)
31    {
32        return a*b;
33    }
34    double mul(double a,double b)
35    {
36        return a*b;
37    }
38    float mul(float a,float b)
39    {
40        return a*b;
41    }
42    int div(int a,int b)
43    {
44        return a/b;
45    }
46    double div(double a,double b)
```

```

43     {
44         return a/b;
45     }
46     double div(double a,double b)
47     {
48         return a/b;
49     }
50     float div(float a,float b)
51     {
52         return a/b;
53     }
54     long power(int a,int b) throws
Exception
55     {
56         if(a<0 || b<0)
57         {
58             throw new Exception("a or b can't
be negative");
59         }
60         if(a==0 || b==0)
61         {
62             throw new Exception("a or b can't
be zero");
63         }
64         return (long)Math.pow(a,b);
65     }
66 }
67 class Solution
68 {
69     public static void main(String args[])
70     {
71         System.out.println("Name : V.
Jahnavi\nSAP ID : 51834788");
72         Scanner sc=new Scanner(System.in);
73         Calculator cal=new Calculator();
74         try
75         {
76             while(true)
77             {
78
79                 System.out.println("Choose your
option\n1.ADDITION\n2.SUBTRACTION\n3.MULTIP
LICATION\n4.DIVISION\n5.POWER\n6.EXIT");
80                 int option=sc.nextInt();
81                 switch(option)
82                 {

```

```

80         int option=sc.nextInt();
81         switch(option)
82         {
83             case 1 :
84                 System.out.print("Enter first
number : ");
85                 double num1=sc.nextInt();
86                 System.out.print("Enter second
number : ");
87                 double num2=sc.nextInt();
88
89                 System.out.println("Output :"+cal.add(num1,
num2));
90                 break;
91             case 2 :
92                 System.out.print("Enter first
number : ");
93                 num1=sc.nextInt();
94                 System.out.print("Enter second
number : ");
95                 num2=sc.nextInt();
96
97                 System.out.println("Output :"+cal.sub(num1,
num2));
98                 break;
99             case 3 :
100                 System.out.print("Enter first
number : ");
101                 num1=sc.nextInt();
102                 System.out.print("Enter second
number : ");
103                 num2=sc.nextInt();
104                 if(num1==0 && num2==0)
105                 {
106                     throw new Exception("Both
numbers cannot be zero");
107                 }
108
109                 System.out.println("Output :"+cal.mul(num1,
num2));
110                 break;
111             case 4 :
112                 System.out.print("Enter first
number : ");
113                 num1=sc.nextInt();
114                 System.out.print("Enter second
number : ");
115                 num2=sc.nextInt();
116
117                 System.out.println("Output :"+cal.div(num1,
num2));
118                 break;
119             default :
120                 System.out.print("Enter valid option : ");
121                 option=sc.nextInt();
122         }
123     }
124 }

```



```

109         System.out.print("Enter first
number : ");
110         num1=sc.nextInt();
111         System.out.print("Enter second |
number : ");
112         num2=sc.nextInt();
113         if(num2==0)
114         {
115             throw new Exception("You
cannot divide a number with 0");
116         }
117
118         System.out.println("Output :"+cal.div(num1,
num2));
119         break;
120     case 5 :
121         System.out.print("Enter the base
number : ");
122         int base=sc.nextInt();
123         System.out.print("Enter the
exponent : ");
124         int exp=sc.nextInt();
125
126         System.out.println("output :"+cal.power(bas
e,exp));
127         break;
128     case 6 :
129         System.exit(0);
130     default :
131         System.out.println("Invalid
input");
132     }
133 }
134 catch(InputMismatchException i)
135 {
136     System.out.println("Invalid
input");
137 }
138 catch(ArithmeticException ae)
139 {
140     System.out.println(ae.getMessage());
141 }
142 catch(Exception e)
143 {

```

```

112         num2=sc.nextInt();
113         if(num2==0)
114         {
115             throw new Exception("You
cannot divide a number with 0");
116         }
117
System.out.println("Output :"+cal.div(num1,
num2));
118         break;
119         case 5 :
120             System.out.print("Enter the base
number : ");
121             int base=sc.nextInt();
122             System.out.print("Enter the
exponent : ");
123             int exp=sc.nextInt();
124
System.out.println("output :"+cal.power(bas
e,exp));
125             break;
126             case 6 :
127                 System.exit(0);
128             default :
129                 System.out.println("Invalid
input");
130         }
131     }
132 }
133 catch(InputMismatchException i)
134 {
135     System.out.println("Invalid
input");
136 }
137 catch(ArithmeticException ae)
138 {
139     System.out.println(ae.getMessage());
140 }
141 catch(Exception e)
142 {
143     System.out.println(e.getMessage());
144 }
145 }
146 }

```

✕ Terminal

```
Name : V. Jahnavi
SAP ID : 51834788
Choose your option
1.ADDITION
2.SUBTRACTION
3.MULTIPLICATION
4.DIVISION
5.POWER
6.EXIT
1
Enter first number : 2
Enter second number : 3
Output :5.0
Choose your option
1.ADDITION
2.SUBTRACTION
3.MULTIPLICATION
4.DIVISION
5.POWER
6.EXIT
2
Enter first number : 3
Enter second number : 4
Output :-1.0
Choose your option
1.ADDITION
2.SUBTRACTION
3.MULTIPLICATION
4.DIVISION
5.POWER
6.EXIT
3
Enter first number : 2
Enter second number : 5
Output :10.0
```

✕ Terminal

```
Enter first number : 2
Enter second number : 5
Output :10.0
Choose your option
1.ADDITION
2.SUBTRACTION
3.MULTIPLICATION
4.DIVISION
5.POWER
6.EXIT
4
Enter first number : 2
Enter second number : 6
Output :0.3333333333333333
Choose your option
1.ADDITION
2.SUBTRACTION
3.MULTIPLICATION
4.DIVISION
5.POWER
6.EXIT
5
Enter the base number : 2
Enter the exponent : 3
output :8
Choose your option
1.ADDITION
2.SUBTRACTION
3.MULTIPLICATION
4.DIVISION
5.POWER
6.EXIT
6
Process finished
```


× Terminal

```
Name : V. Jahnavi
SAP ID : 51834788
Choose your option
1.ADDITION
2.SUBTRACTION
3.MULTIPLICATION
4.DIVISION
5.POWER
6.EXIT
7
Invalid input
Choose your option
1.ADDITION
2.SUBTRACTION
3.MULTIPLICATION
4.DIVISION
5.POWER
6.EXIT
4
Enter first number : 0
Enter second number : 0
You cannot divide a number with 0

Process finished.
█
```



Saved

× Terminal

```
Name : V. Jahnavi
SAP ID : 51834788
Choose your option
1.ADDITION
2.SUBTRACTION
3.MULTIPLICATION
4.DIVISION
5.POWER
6.EXIT
4
Enter first number : 2
Enter second number : 0
You cannot divide a number with 0

Process finished.
█
```



```
Name : V. Jahnavi  
SAP ID : 51834788  
Choose your option  
1.ADDITION  
2.SUBTRACTION  
3.MULTIPLICATION  
4.DIVISION  
5.POWER  
6.EXIT
```

```
1
```

```
Enter first number : j  
Invalid input
```

```
Process finished.
```



```

1
2 import java.util.Scanner;
3 public class RecursivePalindromeJava
4 {
5     // to check if string is palindrome using
    recursion
6     public static boolean
    checkPalindrome(String str)
7     {
8         if(str.length() == 0 || str.length()
    == 1)
9             return true;
10        if(str.charAt(0) ==
    str.charAt(str.length() - 1))
11            return
    checkPalindrome(str.substring(1,
    str.length() - 1));
12        return false;
13    }
14    public static void main(String[]args)
15    {
16
17        System.out.println("Name :V.Jahnavi\nSAP
    ID : 51834788");
18        Scanner sc = new Scanner(System.in);
19        System.out.println("Please enter a
    string : ");
20        String strInput = sc.nextLine();
21        if(checkPalindrome(strInput))
22        {
23            System.out.println(strInput + " is
    palindrome");
24        }
25        else
26        {
27            System.out.println(strInput + " not
    a palindrome");
28        }
29        sc.close();
30    }
}

```

✕ Terminal

```
Name : V. Jahnavi
SAP ID : 51834788
Enter the String :
mam
mam is a palindrome

Process finished.
```

✕ Terminal

```
Name : V. Jahnavi
SAP ID : 51834788
Enter the String :
jahnavi
jahnavi is not a palindrome

Process finished.
```

✕ Terminal

```
Name : V. Jahnavi
SAP ID : 51834788
Enter the String :
120021
120021 is a palindrome

Process finished.
```

✕ Terminal

```
Name : V. Jahnavi
SAP ID : 51834788
Enter the String :
1200
1200 is not a palindrome

Process finished.
```

✕ Terminal

```
Name : V. Jahnavi
SAP ID : 51834788
Enter the String :
1200
1200 is not a palindrome

Process finished.
```

✕ Terminal



```
Name : V. Jahnavi  
SAP ID : 51834788  
Enter the String :  
*/::/*  
*/::/* is a palindrome
```

Process finished.

✕ Terminal



```
Name : V. Jahnavi  
SAP ID : 51834788  
Enter the String :  
$():":  
$():": is not a palindrome
```

Process finished.

```
1 import java.util.Scanner;
2 public class Main
3 {
4     public static void main (String[] args)
5     {
6         System.out.println("Name :V.Jahnavi\nSAP
ID:51834788");
7         int count=0;
8         int rem=0 ;
9         Scanner sc=new Scanner(System.in);
10        System.out.println("enter a number :");
11        int n= sc.nextInt();
12        while(n>0)
13        {
14            rem=n%10;
15            if(rem%2!=0)
16            {
17                count++;
18            }
19            n=n/10;
20        }
21        System.out.println("Number of odd
digits : "+count);
22    }
23 }
```




```
Name :V.Jahnavi  
SAP ID:51834788  
enter a number :  
123738833  
Number of odd digits : 6
```

```
Process finished.  
|
```

```

1  class Pattern
2  {
3      public static void main(String args[])
4      {
5          System.out.println("V. Jahnavi\nSAP ID:
51834788");
6          int k=1;
7          for(int i=1;i<=5;i++)
8          {
9              for(int j=1;j<=i;j++)
10             {
11                 if(j==1)
12                 {
13                     k=j;
14                 }
15                 if(i!=4)
16                 {
17                     if(i%2==0)
18                     {
19                         if(j%2!=0)
20                         {
21                             k=j+1;
22                             System.out.print(k);
23                             k=k-1;
24                         }
25                         else
26                         {
27                             System.out.print(k);
28                         }
29                     }
30                     else
31                     {
32                         if(j%2==0)
33                         {
34                             k=j+1;
35                             System.out.print(k);
36                             k=k-1;
37                         }
38                         else
39                         {
40                             System.out.print(k);
41                         }
42                     }
43                 }
44             else
45             {

```

```
8      {
9          for(int j=1;j<=i;j++)
10         {
11             if(j==1)
12             {
13                 k=j;
14             }
15             if(i!=4)
16             {
17                 if(i%2==0)
18                 {
19                     if(j%2!=0)
20                     {
21                         k=j+1;
22                         System.out.print(k);
23                         k=k-1;
24                     }
25                     else
26                     {
27                         System.out.print(k);
28                     }
29                 }
30                 else
31                 {
32                     if(j%2==0)
33                     {
34                         k=j+1;
35                         System.out.print(k);
36                         k=k-1;
37                     }
38                     else
39                     {
40                         System.out.print(k);
41                     }
42                 }
43             }
44             else
45             {
46                 System.out.print(j);
47             }
48         }
49         System.out.println();
50     }
51 }
52 }
53 }
```

✕ Terminal



V. Jahnavi
SAP ID:51834788

1

21

132

1234

13254

Process finished.


```

1 import java.util.Scanner;
2 public class Demo
3 {
4     public static void main(String []args)
5     {
6         System.out.println("Name :V.
Jahnavi\nSAP ID:51843788");
7         Scanner sc = new Scanner(System.in);
8         System.out.println("Enter Size :");
9         int n = sc.nextInt();
10        sc.nextLine();
11        String[] str = new String[n];
12        System.out.println("enter "+n+"
elements : ");
13        for (int i=0;i<n;i++)
14        {
15            str[i]=sc.nextLine();
16        }
17        for (int i=0;i<n;i++)
18        {
19            for (int j=i+1;j<n;j++)
20            {
21                if (str[i].compareTo(str[j])>0)
22                {
23                    String temp = str[j];
24                    str[j] = str[i];
25                    str[i] = temp;
26                }
27            }
28        }
29        System.out.println("Sorted string : ");
30        for (int i=0;i<n;i++)
31        {
32            System.out.println(str[i]);
33        }
34    }
35 }

```



```
Name :V. Jahnavi
SAP ID:51843788
Enter Size :
4
enter 4 elements :
book
bag
cat
map
Sorted string :
bag
book
cat
map

Process finished.
|
```