



EXPERIMENT – 2.3

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Subject Name: OOP using JAVA

Subject Code: 21CSH-218

Aim of the practical: You are given an interface Advanced Arithmetic which contains a method signature `int divisor_sum(int n)`. You need to write a class called MyCalculator which implements the interface. `divisorSum` function just takes an integer as input and return the sum of all its divisors. Your class shouldn't be public.

Objective: To study how to implement interface in java.

Program Code:

```
1 import java.util.*;
2 interface AdvancedArithmetic{
3     int divisor_sum(int n);
4 }
5
6 //Write your code here
7 class MyCalculator implements AdvancedArithmetic {
8     public int divisor_sum(int n) {
9
10
11         if (n <= 1) { return n; }
12
13         int res = n + 1;
14         for (int i = 2; i < n; i++) {
15             if (n % i == 0) {
16                 res += i;
17             }
18         }
19
20         return res;
21     }
22 }
```

Testcase:

```
23  class Solution{
24      public static void main(String []args){
25          MyCalculator my_calculator = new MyCalculator();
26          System.out.print("I implemented: ");
27          ImplementedInterfaceNames(my_calculator);
28          Scanner sc = new Scanner(System.in);
29          int n = sc.nextInt();
30          System.out.print(my_calculator.divisor_sum(n) + "\n");
31          sc.close();
32      }
33      /*
34       * ImplementedInterfaceNames method takes an object and prints the name of the
35       * interfaces it implemented
36       */
37      static void ImplementedInterfaceNames(Object o){
38          Class[] theInterfaces = o.getClass().getInterfaces();
39          for (int i = 0; i < theInterfaces.length; i++){
40              String interfaceName = theInterfaces[i].getName();
41              System.out.println(interfaceName);
42          }
43      }
44  }
45  }
```

✓ Test case 4 

✓ Test case 5 

Expected Output

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1	I implemented: AdvancedArithmetic
2	1



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✓ Test case 0

Compiler Message

✓ Test case 1

Success

✓ **Test case 2**

Input (stdin)

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1 20

✓ Test case 3

✓ Test case 4

Expected Output

[Download](#)

1 I implemented: AdvancedArithmetic

2 42

✓ Test case 5

✓ Test case 0

Compiler Message

✓ Test case 1

Success

✓ Test case 2

Input (stdin)

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1 200

✓ **Test case 3**

✓ Test case 4

Expected Output

[Download](#)

1 I implemented: AdvancedArithmetic

2 465

✓ Test case 5

✓ Test case 0

Compiler Message

✓ Test case 1

Success

✓ Test case 2

Input (stdin)

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1 1000

✓ Test case 3

✓ **Test case 4**

Expected Output

[Download](#)

1 I implemented: AdvancedArithmetic

2 2340

✓ Test case 5