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COSC 117 Lab 6

Example 1: Sum of Numbers

1. Source code:

```java
SumofNumbers.java
1 import java.util.Scanner;
2
3 public class SumofNumbers {
4
5   public static void main(String[] args) {
6     // TODO Auto-generated method stub
7     Scanner keyboard = new Scanner (System.in);
8     System.out.print("Please enter a positive, non-zero integer: ");
9     int n = keyboard.nextInt();
10    int sum = 0, num = 1;
11
12    while (n < 0) {
13      System.out.print("Invalid integer. please try again: ");
14      n = keyboard.nextInt();
15    }
16    while(num <= n) {
17      sum = sum + num;
18      num++;
19    }
20    keyboard.close();
21    System.out.println("The sum is " + sum);
22  }
23 }
```

```java
recArea.java     SumofNumbers.java     *LargeSmall.java
1 import java.util.Scanner;
2
3 public class SumofNumbers {
4
5   public static void main(String[] args) {
6     // TODO Auto-generated method stub
7     Scanner keyboard = new Scanner (System.in);
8     System.out.print("Please enter a positive, non-zero integer: ");
9     int n = keyboard.nextInt();
10    int sum = 0, num = 1;
11    keyboard.close();
12
13    for (num = 1; num <= n; num++) {
14      sum = sum + num;
15    }
16    System.out.println("The sum is " + sum);
17  }
18 }
19
```

2. Output:

```
Problems  @ Javadoc  Declaration  Console
<terminated> SumofNumbers [Java Application] C:\Users
Please enter a positive, non-zero integer:
Invalid integer. please try again: -2
Invalid integer. please try again: 50
The sum is 1275
```

Example 2: Largest and Smallest

1. Source code:

```java
LargeSmall.java

1  import java.util.Scanner;
2
3  public class LargeSmall {
4
5      public static void main(String[] args) {
6          // TODO Auto-generated method stub
7          Scanner keyboard = new Scanner (System.in);
8          System.out.println("Enter a series of integers. To end the sequence, enter '-99'");
9          int n = keyboard.nextInt();
10         int max = n, min = n;
11
12         while (n != -99) {
13             n = keyboard.nextInt();
14             if ((n != -99) && (n > max)) {
15                 max = n;
16             }
17             if ((n != -99) && (n < min)) {
18                 min = n;
19             }
20
21         }
22         System.out.println("The largest number is " + max);
23         System.out.print("The smallest number is " + min);
24     }
25 }
```

2. Output:

```
Problems  @ Javadoc  Declaration  Console

<terminated> LargeSmall [Java Application] C:\Users\jpmd1\Desktop\Programmir
Enter a series of integers. To end the sequence, enter '-99'
1
4
8
2
3
5
4
-10
50
87
-99
The largest number is 87
The smallest number is -10
```

Example 3: Calculating the factorial of a number

1. Source code:

```
LargeSmall.java    Factorials.java ⊠    DrawTriangle.java
 1  import java.util.Scanner;
 2
 3  public class Factorials {
 4
 5⊖     public static void main(String[] args) {
 6          // TODO Auto-generated method stub
 7          Scanner keyboard = new Scanner (System.in);
 8          System.out.print("Please enter a positive non-zero integer: ");
 9          int n = keyboard.nextInt();
10          int f = 1;
11
12          while (n <= 0) {
13              System.out.print("Invalid integer. Try again: ");
14              n = keyboard.nextInt();
15          }
16          for (int i = 1; i <= n; i++) {
17              f = f * i;
18          }
19          System.out.print("The factorial of your integer is: " + f);
20      }
21 }
22
```

2. Output:

```
Problems  @ Javadoc  Declaration  Console ⊠
<terminated> Factorials [Java Application] C:\Users\jpmd1\D
Please enter a positive non-zero integer: -1
Invalid integer. Try again: 5
The factorial of your integer is: 120
```

Example 4: Drawing a Triangle

1. Source code:

LargeSmall.java   DrawTriangle.java ⊠

```java
 1
 2 public class DrawTriangle {
 3
 4⊖     public static void main(String[] args) {
 5            // TODO Auto-generated method stub
 6
 7            for (int i = 0; i < 7; i++) {
 8                for (int j = 0; j < (7-i); j++) {
 9                    System.out.print("*");
10                }
11                System.out.println();
12            }
13        }
14 }
```

2. Output:

Problems @ Javadoc Declaration Console ⊠
<terminated> DrawTriangle [Java Application] C:\Users\jp

```
*******
******
*****
****
***
**
*
```