src/Problem2.java

```java
/*
Name: Hunter Poole
Date: 3/26/25
HW #: 7
Problem #: 2
Source Code: Problem2.java
Action: Given an integer 1 – 100, determines if the integer
        is odd or even via a method that returns to main.
        Determines sum of integers of 1 – [Input] in the range
        1 – 100, inclusive, via a method that returns to main.
        Outputs result. Continues in a loop. Any input outside
        of 1 – 100 will display an error and exit.
*/

import java.util.Scanner;

public class Problem2
{

/*
Action: Determines if a number is odd or even
Parameters: int N
Returns: String " is even" || " is odd"
Precondition: Input must be an integer
*/

    static String OddOrEven (int N)
    {
        if (N % 2 == 0)
        {
            return " is even";
        }
        else
        {
            return " is odd";
        }
    }

/*
Action: Computes the sum of all integers up to and including
        input integer, for starting integer 1
Parameters: int N
Returns: Sum of all integers from 1 to input integer, inclusive.
Precondition: Input must be an integer. Starting range must be 1, inclusive.
*/

    static int SumOfInts (int N)
```

```java
48         {
49             int Sum = (N * (1 + N)) / 2;
50             return Sum;
51         }
//*****************************************
53     public static void main(String[] args)
54     {
55         int Number;
56
57         Scanner Input = new Scanner(System.in);
58         System.out.print("Enter an integer 1 – 100 --> ");
59         Number = Input.nextInt();
60
61         if (Number >= 1 && Number <= 100)
62         {
63             while (Number >= 1 && Number <= 100)
64             {
65                 System.out.println(Number + OddOrEven(Number));
66                 System.out.printf("%s %d %s %d %n%n","Sum of integers 1 –",
   Number, "is:", SumOfInts(Number));
67
68                 System.out.print("Enter an integer 1 – 100 --> ");
69                 Number = Input.nextInt();
70
71                 if (Number < 1 || Number > 100)
72                 {
73                     System.out.println("ERROR: Must enter an integer 1 – 100");
74                 }
75             }
76         }
77         else
78         {
79             System.out.println("ERROR: Must enter an integer 1 – 100");
80         }
81
82     }
83 }
84
85 /*
86 Enter an integer 1 – 100 --> 4
87 4 is even
88 Sum of integers 1 – 4 is: 10
89
90 Enter an integer 1 – 100 --> 12
91 12 is even
92 Sum of integers 1 – 12 is: 78
93
94 Enter an integer 1 – 100 --> 100
95 100 is even
```

```
 96 | Sum of integers 1 - 100 is: 5050
 97 |
 98 | Enter an integer 1 - 100 --> 0                    //In while-loop error
 99 | ERROR: Must enter an integer 1 - 100
100 | */
101 |
102 | /*
103 | Enter an integer 1 - 100 --> 101                  //Before while-loop error
104 | ERROR: Must enter an integer 1 - 100
105 | */
```