

5)

```
1  /*
2  * To change this license header, choose License Headers in Project Properties.
3  * To change this template file, choose Tools | Templates
4  * and open the template in the editor.
5  */
6  package week1project;
7
8  import java.util.Scanner;
9
10 /**
11  *
12  * @author 33170193
13  */
14 public class Week1Question5 {
15
16     public static void main(String[] args) {
17
18         int inputNum = 0;
19         final int invalidNum = -999;
20         Scanner keyboard = new Scanner(System.in);
21
22         while (inputNum != invalidNum) { //Check Input number is not -999
23
24             System.out.println("Enter a line:");
25             inputNum = keyboard.nextInt(); //Input result
26
27             System.out.println("Your line: " + inputNum); //Output result
28             System.out.println();
29         }
30     }
31 }
32 }
```

6)

Continuously keep track of: Running Total + Average + Smallest number + Largest number

8)

```
6 package week1project;
7
8 import java.util.Scanner;
9
10 public class Week1Question6 {
11
12     public static void main(String[] args) {
13
14         int inputNum, largeNum = 0, smallNum = 0, counter = 2, total = 0;
15         float avg;
16         final int invalidNum = -999;
17
18         Scanner keyboard = new Scanner(System.in);
19
20
21         System.out.println("Enter a number:");
22         inputNum = keyboard.nextInt(); //Input initial result
23
24
25         if (inputNum != invalidNum) { //Assign the initial largest number, smallest number and total for initial comparision
26             total = inputNum;
27             largeNum = inputNum;
28             smallNum = inputNum;
29
30             avg = (float) inputNum;
31
32             System.out.printf("Total: %d Average: %f Largest Number: %d Smallest Number: %d", total, avg, largeNum, smallNum); //Output initial result
33             System.out.println();
34         }
35
36
37
38         while (inputNum != invalidNum) { //Check whether input is valid
39
40             System.out.println("Enter a number:");
41             inputNum = keyboard.nextInt(); //Input result
42
43
44             total += inputNum; //Keep track of running total
45             avg = (float) total / counter; //Keep track of average input
46
47
48
49             if (inputNum > largeNum) { //Compare input to get current largest number
50                 largeNum = inputNum;
51             }
52
53
54             if (inputNum < smallNum) { //Compare input to get current smallest number
55                 smallNum = inputNum;
56             }
57
58
59
60             System.out.printf("Total: %d Average: %f Largest Number: %d Smallest Number: %d", total, avg, largeNum, smallNum); //Output result
61             counter++;
62
63             System.out.println();
64         }
65     }
66 }
67
68
69 }
```

```

6 package weeklproject;
7
8 /**
9  *
10  * @author 33170193
11  */
12 import java.util.Scanner;
13
14 public class WeeklQuestion8 {
15
16     public static void main(String[] args) {
17
18         Scanner input = new Scanner(System.in);
19         boolean go = true;
20
21
22         while (go) {
23
24             System.out.println("Enter a floating point:");
25             double inputNum = input.nextDouble(); //Input number
26
27             if (outOfRange(inputNum)) { //Check if number is out of range
28
29                 System.out.println("Out of range");
30
31                 go = false; //End the while loop
32
33             } else {
34
35                 System.out.println("Not out of range");
36
37             }
38
39         }
40
41         System.out.println("You quit.");
42     }
43
44
45
46
47     static boolean outOfRange(double d) {
48
49         if (d > 100) {
50             return true;
51         }
52
53
54         if (d < -100) {
55             return true;
56         }
57
58         return false;
59     }
60
61 }
62

```

Continuously get input but stop when out of range

How to Round float (input) → whole number

```
6 package week1project;
7 import java.util.Scanner;
8 public class Rounder {
9
10     public static void main(String[] args) {
11
12         Scanner input = new Scanner(System.in);
13
14         System.out.println("Enter a floating point:");
15         double d = input.nextDouble();
16
17         calcWholeNum("The rounded value is", d); //Round float --> Number
18
19     }
20
21     static void calcWholeNum(String msg, double num) {
22
23         double floatNum = num;
24         int wholeNum = 0;
25         double decimalInInput = 0;
26         int roundDownWholeNum = 0;
27         int roundUpWholeNum = 0;
28         double decNumToRoundUp = 0;
29
30         boolean neg = (floatNum < 0);
31         if (neg) {
32             floatNum = -num; //Convert negative float to positive float
33         }
34
35         wholeNum = (int) floatNum;
36         decimalInInput = floatNum - wholeNum; //Core algorithm
37
38         if (decimalInInput < 0.5) {
39
40             if (neg) {
41                 wholeNum = -wholeNum; //Convert negative whole number to positive number
42             }
43
44             roundDownWholeNum = wholeNum;
45
46             System.out.println(msg + " " + roundDownWholeNum);
47         } else {
48
49             decNumToRoundUp = 1 - decimalInInput; //Core algorithm
50
51             if (neg) {
52                 floatNum = -floatNum - decNumToRoundUp;
53             } else {
54                 floatNum = floatNum + decNumToRoundUp; //Core algorithm
55             }
56
57             roundUpWholeNum = (int) floatNum;
58
59             System.out.println(msg + " " + roundUpWholeNum);
60
61         }
62     }
63 }
64
65
66
67
68
69
```