CS110 Java

Handout 2

Exercise: Compute the length of a ladder needed to hang a picture on a wall.

Solution

```
import java.util.Scanner;

public class MyMain {

	public static void main(String[] args) {

		//TASK 1: DECLARE VARIABLES
		double height;		//Height of the picture on a wall.
		double floor;		//Floor length of where the ladder is placed.
		double ladder;		//Computer height of the ladder.



		//TASK 2: CREATE A SCANNER OBJECT TO READ KEYBOARD INPUT
		Scanner in = new Scanner(System.in);



		//TASK 3: PROGRAM MESSAGE
		System.out.println("This program will compute the height of " );
		System.out.println("a ladder needed to hang a picture.");



		//TASK 4: PERFORM INPUT
		System.out.print("Enter the height of the picture:");
		height = in.nextDouble();
		System.out.print("Enter the distance along the floor: ");
		floor = in.nextDouble();



		//TASK 5: COMPUTE THE LENGTH OF THE LADDER
		ladder = Math.sqrt( Math.pow(height,  2.0) +
		    Math.pow(floor, 2.0));



		//TASK 5: DISPLAY COST
		System.out.print("The height of the ladder is approximately ");
		System.out.printf("%.0f", ladder);
	}

}
```

Exercise 2:

Write a program that prompts the user for two integers and then displays the sum, the difference, the

product, the average, the absolute value of the difference, the larger of the two, and the smaller of the two.

Hint: The `Math` class contains `max` and `min` functions.