Problem Set 1 Exercise #14: Box Surface Area and Diagonal

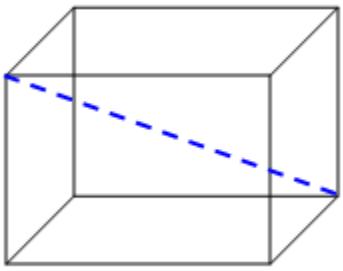
Reference: Lecture 2 notes

Learning objective: Writing functions

Estimated completion time: 25 minutes

Problem statement:

Write a program **box.c** that reads three positive integers representing the *length*, *width* and *height* of a box, and computes (1) its surface area, and (2) the length of the diagonal between two vertices of the box that are furthest apart.



Dotted blue line shows the diagonal connecting two vertices that are furthest apart.

You are to write two functions: **`compute_surface_area()`** and **`compute_diagonal()`** to compute the surface area and length of diagonal of the box respectively.

Please correct your output of real number to two decimal places.

Sample run #1:

```
Enter length: 12
Enter width : 3
Enter height: 10
Surface area = 372
Diagonal = 15.91
```

Sample run #2:

```
Enter length: 10
Enter width : 20
Enter height: 10
Surface area = 1000
Diagonal = 24.49
```