Assignment 7_1

1. Rectangle Problem (40pts)
   A rectangle includes width and height
   Develop a program that determines whether we can put one rectangle inside the other or not
   The size of the window is 300 x 170

Samples 1:

Samples 2:

Samples 3:
2. Ideal Weight (40pts)
Write a program to determine the ideal weight of a person based on his/her height. The formula which determines the ideal weight is:

\[ \text{Male : IdealWeight} = \frac{\text{height}^2 (cm^2)}{398} \]

\[ \text{Female : IdealWeight} = \frac{\text{height}^2 (cm^2)}{426} \]

The result should be rounded with two decimal places.
The size of the window is 600 x 700

**Samples 1:**

![Ideal Weight Calculator](image1)

Enter Your Height(cm): 170
Enter Your Sex: male
Calculate

**Message**
Your ideal weight is: 72.61
OK

**Samples 2:**

![Ideal Weight Calculator](image2)

Enter Your Height(cm): 170
Enter Your Sex: female
Calculate

**Message**
Your ideal weight is: 67.84
OK
3. The Movie Theater (20pts)
   The owner of a movie theater who has complete freedom in setting ticket prices. The more he
   charges, the fewer the people who can afford tickets. In a recent experiment the owner
   determined a precise relationship between the price of a ticket and average attendance. At a
   price of $5.00 per ticket, 120 people attend a performance. Decreasing the price by a dime
   ($0.10) increases attendance by 15. Unfortunately, the increased attendance also comes at an
   increased cost. Every performance costs the owner $180. Each attendee costs another four cents
   ($0.04). The owner would like to know the exact relationship between profit and ticket price so
   that he can determine the price at which he can make the highest profit.
   The result should be rounded with two decimal places.

   The size of the window is 400 x 700

   **Samples:**

   ![Profit Calculator](image)
   ![Message](image)