NOTE: Attempt all questions.

Submission:

Write down the code on paper (**your code must be well indented**), take the scan image of the code you wrote on paper using camscanner, make pdf file and just submit that pdf file on ***slate***.

1. Consider the formula: $\frac{(x+y+z)^2}{3}$. If you analyze it, you will notice that there are three main operations that are being performed (in order):
   i. The **sum** of x, y and z is being calculated.
   ii. The result of step i is being **squared**.
   iii. The sum is **divided** by 3.

   Write functions (in python) with the names **sum**, **square** and **divide** for **step i**, **ii** and **iii** respectively. Write another function that will solve the formula given above with the help of the sum, square and divide functions. The x, y and z values must be passed to the function(s) using parameters where necessary.

2. A student will not be allowed to sit in exam if his/her attendance is less than 80%. Write a function that takes the following two parameters:
   a) Number of classes held.
   b) Number of classes attended.

   The function should then calculate the percentage of classes attended by the student and print it. The function should return whether the student is allowed to sit in the exam (True) or not (False).

3. Write a function that takes two numbers as arguments and returns the difference between them. The difference should always be positive.
   For example, if the first number is 3 and the second number is 1 the difference is 2. Similarly, if the first number is 1 and the second is 3 the difference should still be 2.
   You are not allowed to use the built-in **abs( )** function. (**Hint:** Compare the numbers)

4. A box of cookies can hold 24 cookies, and a container can hold 75 boxes of cookies. Write a **python function** that takes total number of cookies as a parameter and display the number of boxes and the number of containers to ship the cookies

   Note If the last box of cookies contains less than the number of specified cookies, you can discard it and output the number of leftover cookies. Similarly, if the last container contains less than the number of specified boxes, you can discard it and output the number of leftover boxes.

5. One way to determine how healthy a person is by measuring the body fat of the person. The formulas to determine the body fat for female and male are as follows:
   Body fat formula for women:
   A1 = (body weight x 0.732) + 8.987
   A2 = wrist measurement (at fullest point) / 3.140
   A3 = waist measurement (at navel) x 0.157

Your task is to:

1. Write a **two function** to calculate the body fat for male and body fat for female.
2. Write a program that as user to input the required data and chose the gender.
3. Compute the body fat using the functions you have defined and also display Body fat percentage.

To calculate the percentage, use the following formula:

Body fat percentage = body fat x 100 / body weight