Introduction to Programming

Workshop 1: Variables, operators

In this workshop you will practice creating and using variables and basic operators.

Follow the instructions given to complete small programming tasks.

1.1 Task 1: Number Guessing Game

Create a simple game in which the user has to guess the secret number. Game has the following functionality:

1. Program asks the user to enter a number.
2. Set secret number to be entered number plus one.
3. Print out whether the user won or not.

```
This program is a computer game. Please,
type in a number : 1

You typed in 1.
My number is 2.
Sorry, you lost. I won. The game is over.
```

1.2 Task 2: Distance Converter version 0.1

Create a simple program that converts distance given in miles to kilometers. Print out the output with basic `write()` and also with `util.format().`

```
This program converts miles to kilometers.
Please, give a distance in miles:  1

1 miles is 1.6093 kilometers.

1 miles is 1.6093 kilometers.
```

1.3 Task 3: Distance Converter version 0.2

```
This program converts meters to other units of
distance. Please, enter a distance in meters:  432

432 meters is:

        0.432 kilometers
        0.268 miles
      472.441 yards
     1417.323 feet
    17007.875 inches
        0.000 light years
```

Extend the functionality from the previous task to:

1. Ask for the distance in meters.
2. Also convert the distance to following units:
    - kilometers
    - miles
    - yards
    - feet
    - inches
    - light years
3. Show numbers with three decimals.

Hint! If you want to align the results, you can use padStart() function to add empty spaces to make the string equal length. (OPTIONAL)

1.4 Task 4: Basic Calculations

Create a simple program with the following functionality:

1. Ask for user to input a number.
2. Define a secret number.
3. Perform and print out basic calculations for that number with the secret number.

```
Please enter a number: 12
12 + 12 = 24
12 - 12 = 0
12 * 12 = 144
12 / 12 = 1
12 % 12 = 0
12++  = 13
13--  = 12
```