

Assignment 3 – Input and Operators

Learning Objective

Write a Python program that takes user input and uses mathematical operators.

Assignment Description

You will prompt the user to read in a number of seconds. Use mathematical operators to convert the number of seconds into the number of hours, minutes, and seconds. You can code this assignment in PyCharm. The following instructions give steps on how to code this lab in PyCharm.

Steps

1. In PyCharm, open your existing APP_Python project. If you do not have a project, then create a new project in PyCharm. This project can be anywhere on your computer that is convenient to access such as in your Documents folder or on your Desktop. Follow the instructions in the installation document.
2. Under the Assignments directory, create a new Python file called `assignment3.py` Use all lowercase letters.
3. At the top of the file, put comments in the following format and replace the name (*First* and *Last*) with your actual information:

```
# Assignment 3
# Name: First Last
# Description: (such as)
# This program creates variables, gets input from the user, does
# some math calculations and displays information to the user.
```

4. Use the `input()` function to get user input and capture each return value in a variable. You can decide the names of the variables. If you need it, here are some suggestions: *userName*, The return values are all strings. Use the following prompts (sample user input is displayed in **green**):

Enter your name: Meena

5. Use the `input()` function and the `int()` function to get user input for one integer that holds the user's favorite number. Use the following prompt (sample user input is displayed in **green**):

Enter your favorite number: 16

6. Display the information you had the user enter: name and number. You can have them enter more information if you want. Use the `print()` function and the appropriate variables. You can use string concatenation or commas or both in the `print()` call. You are welcome to use the `sep` and `end` parameters for the `print()` function. Signify to the user their input by using double quotes (e.g., "Meena") by using escape characters. Here is an example using the above input:

This is "Meena" and her favorite number is "16".

7. Get user input for the number of seconds. Make sure to convert it to an integer. Use the `input()` function and the `int()` function for this. Use the following prompt (user input is shown in green):

Enter the number of seconds: 6305

8. Create an integer variable that holds the number of seconds in one minute. You can name the variable whatever you like as long as it is a valid variable name. Some suggestions are *secondsInMinute* and *oneMinute*. There are 60 seconds in one minute.
9. Create an integer variable that holds the number of minutes in one hour. Some suggestions for the variable name are *minutesInHour* and *oneHourInMinutes*. There are 60 minutes in one hour.
10. Create an integer variable that holds the number of seconds in one hour. Some suggestions for the variable name are *secondsInHour* and *oneHourInSeconds*. Use the previous two variables and the multiplication operator to calculate the value.
11. Using integer division and modulo, determine the number of hours, minutes, and remaining seconds. Use more variables to hold this information.
12. Use the `print()` function to display text and the values of the variables. Display the number of hours, minutes, and remaining seconds. Here is an example:

6305 seconds = 1 hours, 45 minutes, 5 seconds

13. Test the program. Look at the Sample Output below.
14. Submit your `assignment3.py` file over WhatsApp.

Sample Output (user input shown in green)

Example #1

Enter your name: **Meena**

Enter your favorite number: **16**

This is "Meena" and her favorite number is "16".

Enter the number of seconds: **6305**

6305 seconds = 1 hours, 45 minutes, 5 seconds

Example #2

Enter your name: **Rashi**

Enter your favorite number: **5**

This is "Rashi" and her favorite number is "5".

Enter the number of seconds: **29748**

29748 seconds = 8 hours, 15 minutes, 48 seconds