

**Assignment 1 (Prog. Exer. # 6, Pg 78, Chapter 2)**

Refer to Programming Standards document by clicking [here](#)

---

**Table of Contents**[Introduction](#)[Sample output](#)[Submit Instructions](#)[Sample program for the week - #5, page 77-78 \(Chapter 2\)](#)**Introduction**

The purpose of this assignment is to familiarize you with the writing Python scripts that make use of arithmetic statements and formatting statements. In this assignment, we will solve the problem stated in problem 6 on page 78.

**6. Sales Tax**

Write a program that will ask the user to enter the amount of a purchase. The program should then compute the state and county sales tax. Assume the state sales tax is 5 percent and the county sales tax is 2.5 percent. The program should display the amount of the purchase, the state sales tax, the county sales tax, the total sales tax, and the total of the sale (which is the sum of the amount of purchase plus the total sales tax).

*Hint: Use the value 0.025 to represent 2.5 percent, and 0.05 to represent 5 percent.*

**Sample output**

Shown below is the output produced by my implementation of the program when the user entered 123.33 as the purchase price. This sample screen shots is from IDLE, with user input highlighted in yellow:

```
>>>
Purchase price    = $    123.33
State Sales tax   = $      6.17 (5% of purchase price)
County State tax  = $      3.08 (2.5% of purchase price)
Total tax         = $      9.25
Total price       = $    132.58
>>>
```

*(Keep in mind that the user enters only 1 value - the purchase price- which is stored in a variable. All other values are **calculated** by the program)*

If output is not formatted to 2 places after the decimal place, it will look like this:

```
>>>
Purchase price    = $ 123.33
State Sales tax   = $ 6.1665 (5% of purchase price)
County State tax  = $ 3.08325 (2.5% of purchase price)
Total tax         = $ 9.24975
Total price       = $ 132.57975
>>>
```

**Assignment 1 (Prog. Exer. # 6, Pg 78, Chapter 2)**

Refer to Programming Standards document by clicking [here](#)

---

If output is not formatted to 2 places after the decimal point, the assignment submission is incorrect and you will be awarded 0 points for the submission.

**Submit Instructions**

- Refer to the [Programming Standards document](#) and complete program.
- Submit file via BlackBoard's submission tool.

**Sample program for the week - #5, page 77-78 (Chapter 2)**

Here is a program that illustrates the principles discussed this week. It is problem #5 on page 77-78. Problem description is as follows:

**5. Distance Traveled**

Assuming there are no accidents or delays, the distance that a car travels down the interstate can be calculated with the following formula:

$$\text{Distance} = \text{Speed} \times \text{Time}$$

~~A car is traveling at 70 miles per hour.~~ Write a program that displays the following:

- The distance the car will travel in 6 hours
- The distance the car will travel in 10 hours
- The distance the car will travel in 15 hours

Ask the user to enter speed as an integer

Use this program as a guide for completing this week's program. This program does not have to be submitted.

Code for this program is shown below:

```
1  # Script Name : week3_sample_program.py
2  # Author : Maya Tolappa (CIS115 : Introduction to Programming)
3  # Purpose: It computes distances traveled in 6, 12 and 15 hours
4  #         based upon speed entered by user
5  #
6  # ask user to enter speed and store it in the speed variable
7  speed = int(input("Enter Speed : "))
8
9  # Calculate the distance traveled in 6, 10, and 15 hours.
10 distance6Hours = speed * 6
11 distance10Hours = speed * 10
12 distance15Hours = speed * 15
13
14 # Format variables to 1 place after the decimal
15 distance6_fmt = format(distance6Hours, ".1f")
16 distance10_fmt = format(distance10Hours, ".1f")
17 distance15_fmt = format(distance15Hours, ".1f")
```

**Assignment 1 (Prog. Exer. # 6, Pg 78, Chapter 2)**

**Refer to Programming Standards document by clicking [here](#)**

---

```
18
19  # Print the results.
20  print ("The car travelling at", speed, "mph travels the following distances:")
21  print (distance6_fmt," miles in 6 hours.")
22  print (distance10_fmt," miles in 10 hours.")
23  print (distance15_fmt," miles in 15 hours.")
```

Output produced by the program is as follows. The only value entered by the user is speed, and it shown highlighted in yellow:

```
>>>
Enter Speed : 70
The car travelling at 70 mph travels the following distances:
420.0 miles in 6 hours.
700.0 miles in 10 hours.
1050.0 miles in 15 hours.
>>>
```