Input, Output and Process

1**. Personal Information**

Write a program that displays the following information:

• Your name

• Your address, with city, state, and ZIP

• Your telephone number

• Your college major

2**. Sales Prediction**

A company has determined that its annual profit is typically 23 percent of total sales. Write a program that asks the user to enter the projected amount of total sales, and then displays the profit that will be made from that amount. Hint: use the value 0.23 to represent 23 percent.

3. Land Calculation

One acre of land is equivalent to 43,560 square feet. Write a program that asks the user to enter the total square feet in a tract of land and calculates the number of acres in the tract.

Hint: divide the amount entered by 43,560 to get the number of acres.

4. Total Purchase

A customer in a store is purchasing five items. Write a program that asks for the price of

each item, and then displays the subtotal of the sale, the amount of sales tax, and the total.

Assume the sales tax is 6 percent.

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:

Distance = Speed * Time

A car is traveling at 60 miles per hour. Write a program that displays the following:

• The distance the car will travel in 5 hours

• The distance the car will travel in 8 hours

• The distance the car will travel in 12 hours

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 4 percent and the county sales tax is 2 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 0.02 to represent 2 percent, and 0.04 to represent 4 percent.

7. Miles-per-Gallon

A car's miles-per-gallon (MPG) can be calculated with the following formula:

MPG = Miles driven / Gallons of gas used

Write a program that asks the user for the number of miles driven and the gallons of gas used. It should calculate the car's MPG and display the result.

8. Tip, Tax, and Total

Write a program that calculates the total amount of a meal purchased at a restaurant. The program should ask the user to enter the charge for the food, and then calculate the amount of a 15 percent tip and 7 percent sales tax. Display each of these amounts and the total.

9. Celsius to Fahrenheit Temperature Converter

Write a program that converts Celsius temperatures to Fahrenheit temperatures. The formula is as follows:

F=(9/5)*C+32

The program should ask the user to enter a temperature in Celsius, and then display the temperature converted to Fahrenheit.

10. Stock Transaction Program

Last month Joe purchased some stock in Acme Software, Inc. Here are the details of the

purchase:

• The number of shares that Joe purchased was 1,000.

• When Joe purchased the stock, he paid $32.87 per share.

• Joe paid his stockbroker a commission that amounted to 2 percent of the amount he paid for the stock.

Two weeks later Joe sold the stock. Here are the details of the sale:

• The number of shares that Joe sold was 1,000.

• He sold the stock for $33.92 per share.

• He paid his stockbroker another commission that amounted to 2 percent of the amount he received for the stock.

Write a program that displays the following information:

• The amount of money Joe paid for the stock.

• The amount of commission Joe paid his broker when he bought the stock.

• The amount that Joe sold the stock for.

• The amount of commission Joe paid his broker when he sold the stock.

• Display the amount of money that Joe had left when he sold the stock and paid his broker (both times). If this amount is positive, then Joe made a profit. If the amount is negative, then Joe lost money.

11. State the order of evaluation of the operators in each of the following Python statements and show the value of **x** after each statement is performed.

    a) x = 7 + 3 * 6 / 2 - 1

    b) x = 2 % 2 + 2 * 2 - 2 / 2

    c) x = (3 * 9 * (3 + (9 * 3 / (3))))

12. Write a program that requests the user to enter two numbers and prints the sum, product, difference and quotient of the two numbers.

13. Write a program that reads in the radius of a circle and prints the circle's diameter, circumference and area. Use the constant value 3.14159 for π.
14. Write a program to ask the user for their first name, then their last name. Your program should then print "Welcome <first> <last>!" where <first> <last> are replaced by the names that they entered.
15. Write a program to ask the user for their first name, then their last name. Next, ask the user to input their age in years. Your program should then print "Welcome <first> <last>! You are _____ seconds old! <first> <last> are replaced by the names that they entered and _____ is replaced by their age in seconds.
16. Write a program to input two integers. Call the first x and the second y. You program should calculate the quotient and remainder when x is divided by y.