Practice Assignments #2

1. Temperature of a city in Fahrenheit degrees is input through the keyboard. Write a program to convert this temperature into Centigrade degrees. (Formula: C = (F-32) * 5/9)
2. If a five-digit number is input through the keyboard, write a program to print a new number by adding one to each of its digits. For example, if the number that is input is 12381 then the output should be displayed as 23492.
3. If a five-digit number is input through the keyboard, write a program to calculate the sum of its digits. (Hint: Use the modulus operator '%')
4. If a five-digit number is input through the keyboard, write a program to reverse the number.
5. If a four-digit number is input through the keyboard, write a program to obtain the sum of the first and last digit of this number.
6. In a town, the percentage of men is 52. The percentage of total literacy is 48. If total percentage of literate men is 35 of the total population, write a program to find the total number of illiterate men and women if the population of the town is 80,000.
7. A cashier has currency notes of denominations 10, 50 and 100. If the amount to be withdrawn is input through the keyboard in hundreds, find the total number of currency notes of each denomination the cashier will have to give to the withdrawer.
8. If the total selling price of 15 items and the total profit earned on them is input through the keyboard, write a program to find the cost price of one item.
9. Write a program than asks the user to enter the initial velocity and acceleration of an object, and the time that has elapsed, and print the final velocity, and distance traversed, using the following equations.   a) $v_f = v_i + at$
   b) $s = v_i t + \frac{1}{2} at^2$
10. 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 7 percent.
11. 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 18 percent tip and 7 percent sales tax. Display each of these amounts and the total.
12. A cookie recipe calls for the following ingredients:
    - 1.5   cups   of   sugar
    - 1   cup   of   butter
    - 2.75   cups   of   flour

    The recipe produces 48 cookies with this amount of the ingredients. Write a program that asks the user how many cookies he or she wants to make, and then displays the number of
    cups of each ingredient needed for the specified number of cookies.
13. Write a program that asks the user for the number of males and the number of females registered in a class. The program should display the percentage of males and females in the class.
    Hint: Suppose there are 8 males and 12 females in a class. There are 20 students in the class. The percentage of males can be calculated as 8 / 20 = 0.4, or 40%. The percentage of females can be calculated as 12 / 20 = 0.6, or 60%.
14. 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 2,000.
    - When Joe purchased the stock, he paid $40.00 per share.
    - Joe paid his stockbroker a commission that amounted to 3 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 2,000.
    - He sold the stock for $42.75 per share.
    - He paid his stockbroker another commission that amounted to 3 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).