

Week #1: Problems for Junior Knights (Python)

- 1) Edit your pay calculator program to print out your total pay before taxes (which is what it prints out right now), and your net pay after taxes. For the purposes of this problem, assume that you always pay 10% tax on your total income. For example, if your total pay was \$155, then you pay \$15.50 in taxes so that your net pay is \$139.50. Have your program print out the total pay, amount of tax and net pay.
- 2) Write a program that asks the user to enter a temperature in Fahrenheit (a float) and prints out the converted value in Celsius. (Hint: The formula for conversion is $C = 5(F - 32)/9.0$.)
- 3) Write a program that asks the user to enter a temperature in Celsius (a float) and prints out the converted value in Fahrenheit. (Hint: The formula for conversion is $C = 5(F - 32)/9.0$.)
- 4) Write a program that asks the user for the number of grams of protein, carbohydrates and fat in their food and prints out the number of calories in that food. (Hint: There are 4 calories per gram of protein, 4 calories per gram of carbohydrates, and 9 calories per gram of fat.)
- 5) Write a program that asks the user for the length of their road trip in miles (float) and their average speed of driving in miles per hour (float) and prints out how many hours the trip will take.
- 6) Repeat program #5 but print out the number of minutes the trip will take.
- 7) Write a program that asks the user for the price of gasoline per gallon, the number of gallons of gas currently in their car, the miles per gallon their car gets, and the length of their road trip in miles and calculates and prints out the amount the user will have to spend on extra gas to complete the road trip. (You may assume that the user will have to buy some gas to complete the trip.)
- 8) In many classes, you have to solve problems given certain inputs. (For example, finding the intersection point of two lines, or finding the force given the mass and acceleration.) Create your own problem, either from another class or of your own making and write a program to solve it.