**Extra Practices 2**

***Theoretical Questions***

1. Assume you have the following variable declarations:

**int color, lime, straw, red, orange;  
 double white, green, blue, purple, crayon;**

Evaluate each f the statements below using the following values: color is **2**,

crayon is **-1.3**, straw is **1**, red is **3**, purple is **0.3E+1**.

1. white= color\*2.5/purple;
2. green= color/purple;
3. orange= color/red;
4. blue=(color+straw)/(crayon+0.3);
5. lime=red/color+red%color;
6. purple= straw/red\* color;
7. Assuming an ASCII character set, evaluate these expressions.
   1. (char)((int) ‘z’ - 2)
   2. (int) ‘F’ – (int) ‘A’
   3. (char) (5+ (int) ‘M’)
8. Evaluate the following expressions if x is 10.5, y is 7.2, m is 5, and n is 2.
   1. **x/(double) m**
   2. **x/m**
   3. **(double) (n\*m)**
   4. **(double) (n/m)+y**
   5. **(double)(n/m)**

***-----> on the next page you will find the programming questions!!***

***Programming Questions***

1. Write a C program on paper (do not use the computer before the end) that creates a table of distance equivalents for 100 m , 200 m, 400 m and 800 m in yards and miles. Note that a meter is equivalent to 1.094 yards and 0.0006215 miles. Right-justify all numbers and try to align them nicely in table form.
2. Write a program in which the user enters a character and the output of the program will be the ASCII code of that character. Using this program find the ASCII code associated with **‘\t’**, **‘\\’** and **‘\n’**.
3. Write a program which prompt the user to enter their **first name** their **last name**and their **address** in separate inputs and then print them on the output screen using the following format:

The user names is **Elmira** and their last name is **Ghoulbeigi.** The user lives at **23 Orchards ave., Toronto, ON**.

\*note: the name and address are just an example.

1. Develop a program for the power dissipation of a resistor when the voltage across the resistor and the current in the resistor are known. The relationship for resistor power dissipation is :

P=I\*E

Where

P= Power dissipated in watts  
 I= Resistor Current in amps  
 E= Resistor voltage in volts

1. Create a program that would solve for the current in a series circuit consisting of three resistors and a voltage source. The program user must input the value of each resistor(R1, R2, R3) and the value of the voltage source(Vt). The relationship for total current is:

It=Vt/(R1+R2+R3)

1. Develop a program that will compute the number of items made in an eight-hour day, assuming that the same number of items is made each hour. User input is the number of pieces manufactured in one hour.
2. A Fibonacci number is a member of a set in which each number is the sum of the previous two numbers. The series begins

**0, 1, 1, 2, 3, 5, 8,13, 21, ….**

Write a program that calculates and prints the next three numbers in the Fionacci series. You are to use three variables, fib1, fib2, and fib3.

1. Write a program that will compute a 6% sales tax on a purchase. The program user is to input the total amount of the purchase. The program is to return the original amount of purchase, the tax, and the total of the two.
2. Write a program that converts and prints a user-supplied measurement in inches into
   1. Foot(12 inches) c. Yard(36 inches)
   2. Centimeter (2.54/ inch) d. Meter(39.37 inches)

Left-justify all numbers and try to align them nicely in table form.