4. PROGRAMMING ASSIGNMENT 4

Read: Chapter 8 (Skip Recursion: pages 137-161)
Programming: Name your program p4.c
DUE: Wednesday, August 23, 2017 @ 6:00am

START EARLY!!
This program should be modular, with logical tasks broken up into functions. In this assignment you will write a program using functions to display a total price for a pizza order. Do NOT use global variables in CSE 5a.

a) Display an error message if the input integer is not in the range of 1 through 4 for CHOICE of pizza and is invalid. Prompt for another integer to be input in the correct range. A loop will repeat the prompt until a valid input is entered.

Do not calculate the price for an input number in an incorrect range. See sample output for example.

b) Display an error message if the valid integer input value of 1 through 10 for AMOUNT of the pizza choice is not in this range. Prompt for another integer to be input in the correct range. A loop will repeat the prompt until a valid input is entered.

Do not calculate the price for an input number in an incorrect range. See sample output for example.

c) You will write 2 functions besides main(). main() will call (invoke) both functions: menu() and pay().

main() accepts all input for the program. The function declarations are:

```c
void menu( void );
double pay( int, int );
```

d) menu() displays the choices and prices of pizza. Use printfs and type in text.

```
**** PIZZA++  2 Toppings ****
1) Small     $14.29
2) Medium    $19.09
3) Large     $24.40
4) X-Large   $39.70

```

e) From main(), after valid input is entered, call pay() and pass the choice and the amount. pay() will calculate the price of that ONE pizza order (NOT cumulative total). Repeat ordering, adding the next order price to the total price.

HINT: a variable “subTotal” may help save this running tab.

f) To increase readability, use symbolic constants e.g. " #define MED 19.09 "

g) Your program must loop so that the user can continue to generate and view the output until the user responds with 'n' or 'N' to the offer "Want more pizza (y/n)? " NOTE: Your program will end ONLY with the input of 'n' or 'N'.
**HINT:** Solve this problem in small steps. Here's a suggestion.

1) Write the code for step a) and b) above. Do input error checking later. Test.
2) Write the code for step c), d) above (menu())

3) Write the code for step e) and f) above (pay()). Test.
4) Write the code for step g) above so your entire program will loop again. Test.

6) Complete code for step a) and b) above to range check your input scores. Test.
7) Test. Test. DONE!

**PA#4 SAMPLE OUTPUT:** (typed in **bold** below)

```
**** PIZZA++  2 Toppings ****
1) Small        $14.29
2) Medium       $19.09
3) Large        $24.40
4) X-Large      $39.70
 ***************************
Enter your choice (1 2 3 4): 3
Enter quantity (1-10):  1
Your TOTAL is:    $24.40
Want more pizza (y/n)?  y

**** PIZZA++  2 Toppings ****
1) Small        $14.29
2) Medium       $19.09
3) Large        $24.40
4) X-Large      $39.70
 ***************************
Enter your choice (1 2 3 4): 3
Enter quantity (1-10):  5
Your TOTAL is:    $146.40
Want more pizza (y/n)?  x

**** PIZZA++  2 Toppings ****
1) Small        $14.29
2) Medium       $19.09
3) Large        $24.40
4) X-Large      $39.70
 ***************************
Enter your choice (1 2 3 4): 5
ERROR: Choose ONLY (1-4)!
Enter your choice (1 2 3 4): 2
Enter quantity (1-10):  11
ERROR: Choose ONLY (1-10)!
Enter quantity (1-10):  1
Your TOTAL is:    $165.49
Want more pizza (y/n)?  N
```

Submit the final version of your program as “p4.c”.

Verify you saved your work in the Documents - cs5v HOME directory.