

## Chapter 5- lab assignment...Ravi Patel... (15 points)

**Note: Submit your assignment in the inbox (chapter 5 assignment).**

### **Part 2:**

1. Write a void function declaration and function body for the following program:

```
int main() {  
  
    int a(3) ; int  b(2) ; double c;  
  
    increment(a); // increment a by reference  
  
    cout << "a in main " << a << endl;  
  
    power3(a,b,c) //pass c=pow(a,b) by reference  
  
    cout<< " power value is " << c<<endl;  
  
    twice( a, b) // double a and save in b by reference  
  
    cout<< "Twice " << a<< "is "<< b<<endl;  
  
}
```

//CPSC 230 RAVI PATEL ASSIGNMENT 5 PT 2 Q1

```
#include <iostream>
```

```
#include <cmath>
```

//Write a void function declaration and function body for the following program:

```
void increment(int &a);
```

```
void power3(int a, int b, double &c);
```

```
void twice(int a, int &b);
```

```
int main() {  
    int a(3) ; int  b(2) ; double c;  
    increment(a); // increment a by reference  
    std::cout << "a in main " << a << std::endl;  
    power3(a,b,c); //pass c=pow(a,b) by reference  
    std::cout << "power value is " << c<<std::endl;  
    twice(a,b); // double a and save in b by reference  
    std::cout << "Twice " << a<< " is "<< b<<std::endl;  
}
```

```
void increment (int &y){  
    y++; //increment a by reference  
}
```

```
void power3(int a, int b, double &c){  
    c = pow(a, b); //pass c=pow(a,b) by reference  
}
```

```
void twice(int a, int &b){  
    b = a * 2; //double a and save in b by reference  
}
```

**//SAMPLE OUTPUT:**

**//a in main 4**

**//power value is 16**

**//Twice 4 is 8**

2. Write a program that tells what coins to give out for any amount of change from 1 cent to 99 cents. For example, if the amount is 86 cents, the output would be something like the following: 86 cents can be given as 3 quarter(s) and 11 cents:

**void compute\_coin(int change, int& no\_quarters, int& no\_cents);**

Include a loop that lets the user repeat this computation for new input values until the user says he or she wants to end the program.

```
//CPSC 230 RAVI PATEL ASSIGNMENT 5 PT 2 Q2
#include <iostream>
#include <cmath>
using namespace std;

void compute_coin(int change, int& no_quarters, int& no_cents) {
    no_quarters = no_cents/ change;
    no_cents = no_cents - (change*no_quarters);
}

int main() {

    int amount = 0, quarters = 0, cents = 0;
    char c;

    do{
        cout << "Enter an amount to evaluate (cents): " ; //get user input
        cin>>amount; //assign user input

        if ( amount < 1 || amount > 99 ) {
            cout << "ERROR! Can only evaluate between 1 and 99 cents. Try again.\n";
        }

        else {

            cout<<amount<<" cents can be given as "; //display format

            compute_coin(25, quarters, amount); //pass thru compute_coin
            cout << quarters<< " quarter(s)"; //display quarters

            compute_coin (1, cents, amount); //pass thru compute_coin
            cout << " and "<< cents<< " cents"<<endl; //display cents

            cout << "Would you like to do another evaluation? 'y' for yes: "; //user
            choice, repeat?
            cin >> c; //assign user choice

        }

    } while((c == 'y' || c == 'Y')); //while choice is yes, do above

    return (0); //catch all

}
```

**//SAMPLE OUTPUT:**

```
//Enter an amount to evaluate (cents): 86
//86 cents can be given as 3 quarter(s) and 11 cents
//Would you like to do another evaluation? 'y' for yes: y
//Enter an amount to evaluate (cents): 0
//ERROR! Can only evaluate between 1 and 99 cents. Try again.
//Enter an amount to evaluate (cents): 100
//ERROR! Can only evaluate between 1 and 99 cents. Try again.
//Enter an amount to evaluate (cents): 42
//42 cents can be given as 1 quarter(s) and 17 cents
//Would you like to do another evaluation? 'y' for yes: n
```