Homework # 7

Due: Monday Aug 14, 2017 at 5 pm

Part I: Practice and Theory

1. Practice Problems: P5.3, P5.4, P5.5, P5.7, P5.9, P5.10, P5.11 (not collected)

2. Chapter 5 Quiz (10 points). Only one attempt allowed, time limit is 60 min.

Part II : Programming

3. Coding Exercise (40 points).

Construct a `Customer` class that keeps track of a Customer purchases, credit line, and total balance. An object in the `Customer` class will have a name, an address, a credit limit (set to $1500) as well as other data fields. Declare and define data fields, include a constructor to populate the data fields, and implement member functions such that you can perform the following:

- Extract data members if needed.
- Keep track of number of sales, and total balance.
- Specify if a new purchase would exceed the credit limit. If the cost of an item to be purchased, added to the unpaid balance, surpasses the Customer's credit limit , do not allow the sale and output `"Not enough credit limit.Purchase cannot be completed."` . Otherwise show `"Purchase successful."`

Write a program that tests the features of the `Customer` class. Figure 1 shows a sample output. You can use the following pseudocode as a template:

```
#include  header files
using namespace std;
class Customer
{public:

Customer(parameters);

string get_name() const;
double get_credit_limit() const;
bool add_purchase(double val);
double get_total_balance() const;
int get_num_purchases() const;

private:
//data field };
// Definition of constructor and member functions
```

```
int main ()
{
construct Customer object
cout<< "Customer: " << Customer name << endl;
cout << "Credit Limit: " << Customer credit limit<<endl;

//while loop

purchase value?
cin >> val;
c.add_purchase(val) ;
Purchase another item  (y/n) ?

cout << "The total of " << number of purchases
<< " purchase(s) is $"<<total balance << endl;

return 0;
}
```

```
Costumer:John Doe
Credit Limit: 1500
Purchase value (in $): 100
Purchase successful.
Do you want to purchase another item (y/n)? y
Purchase value (in $): 452
Purchase successful.
Do you want to purchase another item (y/n)? y
Purchase value (in $): 1200
Not enough credit limit. Purchase cannot be completed.
Do you want to purchase another item (y/n)? y
Purchase value (in $): 923
Purchase successful.
Do you want to purchase another item (y/n)? y
Purchase value (in $): 130
Not enough credit limit. Purchase cannot be completed.
Do you want to purchase another item (y/n)? y
Purchase value (in $): 10
Purchase successful.
Do you want to purchase another item (y/n)? n
The total of 4 purchase(s) is $1485
```

Figure 1: Hmw7 sample output