Lab 10 Exercise

1. Consider the function definition
   ```cpp
   void Demo(int IntVal, float FloatVal)
   {
       IntVal = IntVal * 2;
       FloatVal = IntVal + 3.5;
   }
   ```
   What is the output of the following code fragment?
   ```cpp
   int X = 20;
   float Y = 4.8;
   Demo(X,Y);
   cout<<X<<' '<<Y<<' '<<endl;
   ```
   a) 20 43.5
   b) 40 4.8
   c) 20 4.8
   d) 40 43.5
   e) Invalid

2. Consider the function definition
   ```cpp
   void Demo(int IntVal, float& FloatVal)
   {
       IntVal = IntVal * 2;
       FloatVal = IntVal + 3.5;
   }
   ```
   What is the output of the following code fragment?
   ```cpp
   int X = 20;
   float Y = 4.8;
   Demo(X,Y);
   cout<<X<<' '<<Y<<' '<<endl;
   ```
   a) 20 43.5
   b) 40 4.8
   c) 20 4.8
   d) 40 43.5
   e) Invalid

3. Consider the function definition
   ```cpp
   void Demo(int IntVal, float& FloatVal)
   {
       IntVal = IntVal * 2;
       FloatVal = IntVal + 3.5;
   }
   ```
   What is the output of the following code fragment?
   ```cpp
   int X = 20;
   float Y = 4.8;
   Demo(X,Y+2);
   cout<<X<<' '<<Y<<' '<<endl;
   ```
   a) 20 43.5
   b) 40 4.8
   c) 20 4.8
   d) 40 43.5
   e) Invalid

4. Consider the function definition
   ```cpp
   void Demo(int& IntVal, float FloatVal)
   {
       IntVal = IntVal * 2;
       FloatVal = IntVal + 3.5;
   }
   ```
   What is the output of the following code fragment?
   ```cpp
   int X = 20;
   float Y = 4.8;
   Demo(20,Y);
   cout<<X<<' '<<Y<<' '<<endl;
   ```
   a) 20 43.5
   b) 40 4.8
   c) 20 4.8
   d) 40 43.5
   e) Invalid
5. Bayou Airport Parking wants to create a calculation tool for parking charge, so their employees can use the tool to compute the parking charge. The main function for *Bayou Airport Parking* is given below. The given main function will

1) Accept inputs:
   - the number of days,
   - type of parking *Valet (V)*, *Covered (C)*, and *Non-covered (N)* parking. The parking charge for each vehicle is as follows: $17.95 for valet, $12.95 for covered, and $8.95 for non-covered parking.
   - has a coupon -- get 20% off.

2) Call the function *Parking* and passes the values of parking type and number of days to *Parking* function. *Parking* function will compute and return the charge for parking according to number of days, and type of parking, and also return the type of parking in word as *Valet Parking*, *Covered Parking*, and *Non-covered Parking*, accordingly.

3) Call the function *DiscountCoupon* and passes the value that indicates whether there is a coupon. *DiscountCoupon* function will calculate and return the amount of discount and the word *Coupon* if there is a coupon, otherwise return zero for discount amount and the word *No coupon*.

4) Output the charge.

Your task is to create function definitions for *Parking* and *DiscountCoupon* according to the descriptions above and the function calls in the main function.

**Samples I/O:**

```
  Enter number of days of parking -- 3
  Enter Y or y if there is a coupon or N if no coupon -- N
  Your vehicle parked at Valet parking for 3 days
  The charge is $53.40
  Your discount with no coupon is $0.00
  The final charge is $53.40

  Enter number of days of parking -- 3
  Enter Y or y if there is a coupon or N if no coupon -- Y
  Your vehicle parked at Valet parking for 3 days
  The charge is $53.40
  Your discount with coupon is $8.68
  The final charge is $44.72

  Enter number of days of parking -- 3
  Enter Y or y if there is a coupon or N if no coupon -- N
  Your vehicle parked at Covered parking for 3 days
  The charge is $28.80
  Your discount with no coupon is $0.00
  The final charge is $28.80
```

```
  Enter number of days of parking -- 3
  Enter Y or y if there is a coupon or N if no coupon -- Y
  Your vehicle parked at Covered parking for 3 days
  The charge is $28.80
  Your discount with coupon is $5.76
  The final charge is $23.04
```
```cpp
#include <iostream>
#include<string>
#include<iomanip>
using namespace std;

double Parking(char, int, string&);
double DCoupon(char, double, string&);

int main ()
{
    char ParkingType, Response;
    int Days;
    double Charge, Discount;
    string Place,Coupon;
    cout<<"Enter number days of parking -->";
    cin>>Days;
    cout<<"Enter V for Valet, C for Covered, and N for Non-covered parking -->";
    cin>>ParkingType;
    Charge = Parking(ParkingType, Days, Place);
    cout<<"Enter Y or y if there is a coupon or N for no coupon -->";
    cin>>Response;
    Discount = DCoupon(Response, Charge, Coupon);
    cout<<fixed<<setprecision(2);
    cout<<endl<<endl
    << "****************************************"<<endl;
    cout<<"***      Bayou Airport Parking      ****"<<endl;
    cout<<endl<<"Your vehicle parked at "<<Place
<< " for "<<Days<< " days";
    cout<<"The charge is "$<<Charge<<endl;
    cout<<"Your discount with "<<Coupon<<" is "$<<Discount<<endl;
    cout<<"The final charge is "$<<Charge-Discount;
    cin.get(); cin.get();
    return 0;
}

//Function Parking

//Function DCoupon
```