# LAB TEST – 1

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**Program Link:**

[https://drive.google.com/drive/folders/1R0bvai70FFgtjigWGccJaq6cPh3LqkII?usp=sharing](https://drive.google.com/drive/folders/1R0bvai70FFgtjigWGccJaq6cPh3LqkII?usp=sharing)

**Aim: To find the renewal date for sim card and the total price of renewal using concepts of classes and objects.**

```cpp
#include <iostream>
#include <malloc.h>
using namespace std;
//Coded by Hari Krishna Shah

class renewal{
    private:
        int renewal_count;
        struct renewal_date{
            int year;
```

```cpp
        int month;
        int day;
    }*rd;
    int price;
    int renewal_gap;

    public:
        void get_details(int
r_renewal_count, int r_price, int
r_year, int r_month, int r_day, int
r_renewal_gap);
        void display();
        renewal(){
            rd = NULL;
        }

        ~renewal(){
            delete rd;
        }

};
void renewal::get_details(int
r_renewal_count, int r_price, int
r_year, int r_month, int r_day, int
r_renewal_gap){
    renewal_count = r_renewal_count;
    price = r_price;
```

```c
    renewal_gap = r_renewal_gap;
    int add;

    rd = (struct renewal_date *)
(malloc(renewal_count*sizeof(struct
renewal_date)));
        rd[0].year = r_year;
        rd[0].month = r_month;
        rd[0].day = r_day;


    for(int i = 1; i<renewal_count;
i++){
        rd[i].year = rd[i-1].year;
        rd[i].month = rd[i-1].month;
        rd[i].day = rd[(i-1)].day +
renewal_gap;

        if(rd[i].day>30){
            add = (rd[i].day/30);
            rd[i].day = rd[i].day%30;
            rd[i].month = rd[i].month +
add;
        }
        if(rd[i].month>12){
            add = (rd[i].month/12);
            rd[i].month =
```

```cpp
rd[i].month%12;
            rd[i].year = rd[i].year +
add;
        }
    }


}

void renewal::display(){
    int total_price;
    cout<<"\nThe entered gap day for
renewal is "<<renewal_gap<<"."<<endl;
    cout<<"The entered price for each
renewal is "<<price<<"."<<endl;
    cout<<"Following is the list of
each renewal date."<<endl<<endl;

    for(int i = 0; i<renewal_count;
i++){
        cout<<"Below is detail for
renewal date number "<<i+1<<endl;
        cout<<"Year:
"<<rd[i].year<<endl;
        cout<<"Month:
"<<rd[i].month<<endl;
        cout<<"Day:
"<<rd[i].day<<endl<<endl;
```

```cpp
    }
    total_price = price*renewal_count;
    cout<<"The total price for the
renewal is "<<total_price<<"."<<endl;
}

int main(){
    class renewal r;
    int r_count, r_price, r_year,
r_month, r_day, r_renewal_gap,
r_renewal_count;

    cout<<"Enter the how many times
you want to renew the sim card: ";
    cin>>r_renewal_count;
    cout<<"Enter the day after which
sim is to be renewed: ";
    cin>>r_renewal_gap;

    cout<<"Enter the price of each
renewal: ";
    cin>>r_price;
    cout<<"Enter the current year of
renewal: ";
    cin>>r_year;
    cout<<"Enter the current month of
renewal: ";
```

```cpp
    cin>>r_month;
    cout<<"Enter the current day of
renewal: ";
    cin>>r_day;

    r.get_details(r_renewal_count,
r_price, r_year, r_month, r_day,
r_renewal_gap);

    r.display();

    return 0;
```

```
}
```