##Ques1.

```c
#include <stdio.h>
#include <stdlib.h>
typedef struct Date
{
        int day;
        int month;
        int year;
}DATE;

int menu_list()
{
        int choice;
        printf("Enter your choice:\n");
        printf("1. InitDate()\n");
        printf("2.PrintDateOnConsole()\n");
        printf("3. AcceptDateFromConsole()\n");
        scanf("%d", &choice);
        return choice;
}

void InitDate(struct Date* ptDate)
{
        ptDate->day = 9;
        ptDate->month = 6;
        ptDate->year = 1995;
}

void PrintDateOnConsole(struct Date* ptDate)
{
        printf("Day : %d", ptDate->day);
        printf("Month : %d", ptDate->month);
        printf("Year : %d", ptDate->year);
}

void AcceptDateFromConsole(struct Date* ptDate)
{
        printf("Enter the day:");
        scanf("%d",&ptDate->day);
        printf("Enter the month:");
        scanf("%d",&ptDate->month);
        printf("Enter the year:");
        scanf("%d",&ptDate->year);
}

int main(void) {
        int choice;
        DATE d1;
        while(choice = menu_list())
        {
                switch(choice){
```

```
                case 1:
                        InitDate(&d1);
                        break;
                case 2:
                        PrintDateOnConsole(&d1);
                        break;
                case 3:
                        AcceptDateFromConsole(&d1);
                default:
                        printf("ENTER THE RIGHT CHOICE !!!");

        }
        }
        return EXIT_SUCCESS;
}
```

##Ques2.

```
/*Write a menu driven program for Date in a C++ language.
Declare a structure Date having data members day, month, year. Implement
the
following member functions.
void InitDate();
void PrintDateOnConsole();
void AcceptDateFromConsole();
bool IsLeapYear();*/

#include <iostream>
using namespace std;

typedef struct Date
{
        int day;
        int month;
        int year;
} DATE;

int menu_list()
{
        int choice;
        cout << "Enter the choice : \n";
        cout << "1. InitDate().\n ";
        cout << "2. PrintDateOnConsole().\n";
        cout << "3. AcceptDateFromConsole().\n";
        cout << "4. IsLeapYear().\n\n";
        cin >> choice;
        return choice;
}
DATE d1;

void InitDate()
{
```

```
        d1.day = 21;
        d1.month = 11;
        d1.year = 2005;
}
 void PrintDateOnConsole()
{
        cout<< "day : " << d1.day;
        cout << "\tMonth :" << d1.month;
        cout << "\tYear :" << d1.year;
}
void AcceptDateFromConsole()
{
        cout << "Enter day : \n" ;
        cin >> d1.day;
        cout << "Enter month : \n";
        cin >> d1.month;
        cout <<"Enter year : \n";
        cin >> d1.year;
}
void IsLeapYear()
{
        if(d1.year %4 ==0)
        cout << "\nLeap Year\n";
        else
        cout << "\nNot Leap Year\n";
}
int main() {
        //DATE d1;
        int choice;
        while(choice = menu_list() )
        {
                switch(choice){

                case 1:
                        InitDate();
                        break;
                case 2 :
                        PrintDateOnConsole();
                        break;
                case 3 :
                        AcceptDateFromConsole();
                        break;
                case 4 :
                        IsLeapYear();
                        break;
                default :
                        cout << "\nGive correct input!!!\n";
                        break;
                }
        }
        return 0;
}
```

##Ques3. *Write a menu driven program for Date in a C++ language. Declare a class Date having data members day, month, year. Implement the following member functions. Date(); Date(int day, int month, int year); void PrintDateOnConsole(); void AcceptDateFromConsole(); bool IsLeapYear();/*

```
#include <iostream>
using namespace std;

class Date
{
private:
        int day;
        int month;
        int year;
public:
        Date()
                {
                        this->day = 21;
                        this->month = 12;
                        this->year = 2020;
                }
        Date(int day, int month, int year)
                {
                        this->day = day;
                        this->month = month;
                        this->year = year;

                }


        void PrintDateOnConsole();
                void AcceptDateFromConsole();
                bool IsLeapYear();



};



                int menu_list()
                {       int choice;
                        cout<< "Enter the choice : ";
                        cout<<"\n 1. Date();";
                        cout<< "\n2. Date(int day, int month, int year);";
                        cout<< "\n3. void PrintDateOnConsole();";
                        cout<< "\n4. void AcceptDateFromConsole();";
                        cout<< "\n5. bool IsLeapYear();\n";
                        cin>> choice;

                        return choice;
```

```
                }
void Date::PrintDateOnConsole()
{
        cout<< "\nDAY : "<<this->day;
        cout<< "\nMONTH : "<<this->month;
        cout<< "\nYEAR : "<<this->year<<"\n";
}
void  Date::AcceptDateFromConsole()
{
        cout << "Enter day :\n";
        cin >> this->day;
        cout << "Enter month n";
        cin >> this->month;
        cout << "Enter day :\n";
        cin >> this->year;
}
bool Date ::IsLeapYear()
{

        if(this->year %4 ==0)
                {
                        return true;
                        cout << "LEAP\n";
                }
                else
                {
                        cout << "NOT LEAP\n";
                        return false;
                }
}


int main()
{
        int choice;
        Date d;
        Date(12,1,2019) ;
        while((choice = menu_list())!= 0)
        {
                switch(choice)
                {
                case 1:
                        Date();
                        break;
                case 2:
                        Date(12,12,2020);
                        break;
                case 3:
                        d.PrintDateOnConsole();
                        break;
                case 4:
                        d.AcceptDateFromConsole();
                        break;
                case 5:
```

```
                        d.IsLeapYear();
                        break;
                default:
                        break;

                }

        }

        return 0;
}
```

##Ques 4.

```
/*
Write a menu driven program to calculate volume of the box.Provide
neceesary
constructors.*/

#include <iostream>
using namespace std;

class Volume{
private:
        int length,breadth,height;
public:
        //Volume();
        //Volume(int length,int breadth,int height);
        void accept_data();
        void Cal_Vol();
        float volume = length*breadth*height;
        Volume()
        {
                this->length = 10;
                this->breadth = 10;
                this->height = 10;

        }
        Volume(int length,int breadth,int height)
        {
                this->length = length;
                this->breadth = breadth;
                this->height = height;
        }
};


void Volume::accept_data()
{
        cout <<"Enter length : ";
        cin >> length;
        cout <<"Enter breadth : ";
```

```
        cin >> breadth;
        cout <<"Enter height : ";
        cin >> height;
}

void Volume::Cal_Vol()
{
        float res = length*breadth*height;
        cout << " \nVOLUME = " <<res;
}

int menulist()
{
        int choice;
        cout << "\n 1. void accept_data()";
        cout << "\n 2. void Cal_Vol()";
        cin >> choice;
        return choice;
}

int main()
{
        Volume V;
        Volume V1(10,20,30);
        int choice;
        while((choice = menulist())!=0)
                {
                        switch(choice)
                        {
                        case 0:
                                break;
                        case 1 :
                                V.accept_data();
                                continue;
                        case 2:
                                V.Cal_Vol();
                                continue;
                        default:
                                break;
                        }
                }
}
```

```
#include<iostream>
using namespace std;

class tollBooth
{
private:
```

```
        unsigned int cars;
        double amount;
public:
        tollBooth()
                {
                        this->cars = 0;
                        this->amount = 0;
                }
                void payingCar();
                void nopayCar();
                void PrintOnConsole();
};

void tollBooth::payingCar()
{
        this->cars++;
        this->amount = this->amount+0.50;
}
void tollBooth:: nopayCar()
{
        this->cars++;
}
void tollBooth:: PrintOnConsole()
{
        int npcars;
        npcars = this->cars - (amount*2);
        cout << "\n no. of non paying cars : " << npcars;
        int pcars = this->cars-npcars;
        cout << "\n No. of Paying cars " << pcars ;
        cout << "\n Total Cars : "<< this->cars;
        cout << "\n Total Amount : " << this->amount;
}

int menu_list()
{
        int choice;
        cout << "\n 0. Exit ";
        cout << "\n 1. void payingCar()";
        cout << "\n 2. nopayCar()";
        cout << "\n 3. PrintOnConsole()";
        cin >> choice;
        return choice;
}

int main()
{
        tollBooth t1;
        int choice ;

        while((choice = menu_list()))
        {
                switch(choice)
                {
                case 1:
```

```
                        t1.payingCar();
                        break;
                case 2:
                        t1.nopayCar();
                        break;
                case 3:
                        t1.PrintOnConsole();
                        break;
                case 0:
                        break;
                default:
                        break;
                }
        }
        return 0;
}
```