Assignment 2

Q1. Write a menu driven program for Date in a CPP language using structure and also using class. Date is having data members day, month, year. Implement the following functions. void initDate(); // to initialize the Date object with default values for data members (1,1,1900) void printDateOnConsole(); void acceptDateFromConsole(); bool isLeapYear();

```cpp
#include <iostream>

using namespace std;

class Date
{
 int day;

 int month;

 int year;

 public :

 void init()
 {
   day=15;

   month=5;

   year=2005;
 }
 void acceptDataFromConsole()
 {
   printf("enter data\n");

   cin>>day>>month>>year;


 }
 void printData()
 {
cout<<day+"-"<<month+"-"<<year<<endl;
 }
 bool checkLeep()
 {
   cout<<"enter year\n";

   int year;
```

```cpp
        cin>>year;
        if((year%4==0 && year%100!=0) || year%400==0)
        {
            return true;
        }
        return false;
    }
};
int menu()
{
    cout<<"For accept date press 1\n";
    cout<<"For print date press 2\n";
    cout<<"for check leap year press 3\n";
    cout<<"for exit press 0\n";
    cout<<"enter your chioce\n";
    int ch;
    cin>>ch;
    return ch;
}
int main()
{
    Date d1;
    int ch;
    bool check;

    while((ch=menu())!=0)
    {
    switch (ch)
    {
    case 1:
        d1.acceptDataFromConsole();
        break;
```

```cpp
        case 2:
            d1.printData();
            break;
        case 3:
            check=d1.checkLeep();
            if(check)
            {
            cout<<"leap year\n";
            }
            else{
            cout<<"not leap\n";
            }
            break;
        default:
        cout<<"wrong input\n";
            break;
        }
        }
    return 0;
}
```

```
PS D:\CDAC\cppvscode> g++ Assignment2.1.cpp
PS D:\CDAC\cppvscode> .\a.exe
For accept date press 1
For print date press 2
for check leap year press 3
for exit press 0
enter your chioce
1
enter data
5
7
2008
For accept date press 1
For print date press 2
for check leap year press 3
for exit press 0
enter your chioce
3
enter year
1900
not leap
For accept date press 1
```

Q2. Write a menu driven program for Student in CPP language. Create a class student with data members roll no, name and marks. Implement the following functions void initStudent(); // to initialize the student object with default values for data members (0," ",0); void printStudentOnConsole(); void acceptStudentFromConsole();

```cpp
#include <iostream>

using namespace std;

class Student
{
    int rollno;

    string name;

    int marks;
public:
void initStudent()
{
    rollno=1;

    name="omkar";

    marks=80;
}
void printStudent()
{
  cout<<rollno<<endl;

   cout<<name<<endl;

   cout<<marks<<endl;
}

void acceptDataFromConsole()
{
    cout<<"enter data\n";

    cin>>rollno>>name>>marks;
}
};
int menu()
{
```

```cpp
        cout<<"For accept data press 1\n";
        cout<<"For print data press 2\n";
        cout<<"for check leap year press 3\n";
        cout<<"for exit press 0\n";
        cout<<"enter your chioce\n";
        int ch;
        cin>>ch;
        return ch;
}
int main()
{
    Student s1;
    int ch;
    while((ch=menu())!=0)
    {
    switch (ch)
    {
 case 1:
        s1.acceptDataFromConsole();
        break;
    case 2:
        s1.printStudent();
        break;
    default:
        cout<<"wrong input\n";
        break;
    }
    }
return 0;
}
```

```
PS D:\CDAC\cppvscode> g++ Assignment2.2.cpp
PS D:\CDAC\cppvscode> .\a.exe
For accept data press 1
For print data press 2
for check leap year press 3
for exit press 0
enter your chioce
1
enter rollno, name ,marks
1
omkar
85
For accept data press 1
For print data press 2
for check leap year press 3
for exit press 0
enter your chioce
2
rollno is: 1
name is: omkar
marks is: 85
For accept data press 1
For print data press 2
for check leap year press 3
```

Q3. Create a namespace NStudent. Create the Student class(created as per Q2) inside namespace. Create the object of student and perform accept and display student.

#include <iostream>

using namespace std;

namespace Nstudent{

class Student{

   int rollno;

   string name;

   int marks;

   public:

   void acceptData()

   {

      cout<<"Enter rollno name and mark"<<endl;

      cin>>rollno>>name>>marks;

   }

   void display()

   {

      cout<<"rollno is: "<<rollno<<endl;

      cout<<"name is: "<<name<<endl;

```cpp
        cout<<"marks is: "<<marks<<endl;

    }

};

}

using namespace Nstudent;

int main()

{

    Student s1;

    s1.acceptData();

    s1.display();

}
```

```
PS D:\CDAC\cppvscode> g++ Assignment2.3.cpp
PS D:\CDAC\cppvscode> .\a.exe
Enter rollno name and mark
2
mayur
96
rollno is: 2
name is: mayur
marks is: 96
PS D:\CDAC\cppvscode>
```