

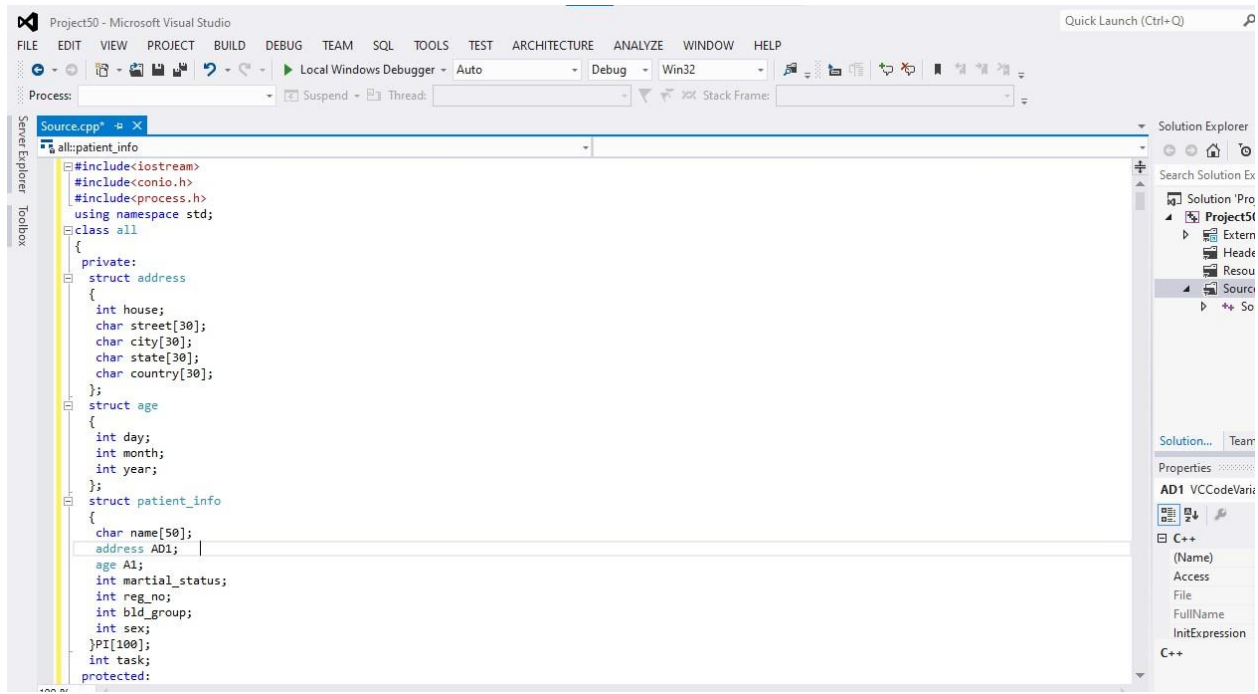
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Roll no: p19-1672

Lab task: 15

Code of design:

Design Mapping to Code



E EDIT VIEW PROJECT BUILD DEBUG TEAM SQL TOC

Local Windows Debugge

Process: Suspend Thread:

Source.cpp* X

all::patient_info

```
int regis;  
int attempt;  
int temp;  
int show_count=0;  
void enter_patient_info();  
void show_patient_detail();  
public:  
void software_detail();  
void tasks();  
char answer;  
char answer1;  
char ch;  
int serial;  
};
```

```
class date  
{  
private:  
int date;  
int month;  
int year;  
public:  
void enter_date();  
void show_date();  
};
```

```
class dob  
{  
private:  
struct dob1  
{  
int date;  
int month;
```

Project50 - Microsoft Visual Studio

FILE EDIT VIEW PROJECT BUILD DEBUG TEAM SQL TOOLS TEST

Local Windows Debugger Auto

Process: Suspend Thread:

Source.cpp* X

all::patient_info

```
public:
    void enter_date();
    void show_date();
};

all A1;           //object declared
date D1;         //object declared
dob DOB1;        //object declared

void main()
{
    int count=0;
    cout<<"Welcome to..."<<" ";
    cout<<" ***HOSPITAL MANAGEMENT SOFTWARE***"<<" ";
    D1.enter_date();
    A1.tasks();
}

void all::tasks()
{
    attempt=0;
    D1.show_date();
    cout<<" ***HOSPITAL MANAGEMENT SOFTWARE***"<<" ";
    cout<<" **Hospital Management Tasks** "<<" ";
    cout<<" *****"<<" ";
    cout<<" Please select a task to do..."<<" ";
    cout<<" 1. Enter a new patient information ."<<" ";
    cout<<" 2. View detail of existing patient ."<<" ";
    cout<<" 3. View detail about the program ."<<" ";
    cout<<" 4. Exit from the program ."<<" ";
    cout<<" Enter your task serial : "<<" ";
    cin>>task;
    switch(task)
```

Project00 - Microsoft Visual Studio

FILE EDIT VIEW PROJECT BUILD DEBUG TEAM SQL TOOLS TEST AR

Local Windows Debugger Auto

Process: Suspend Thread:

Source.cpp* X

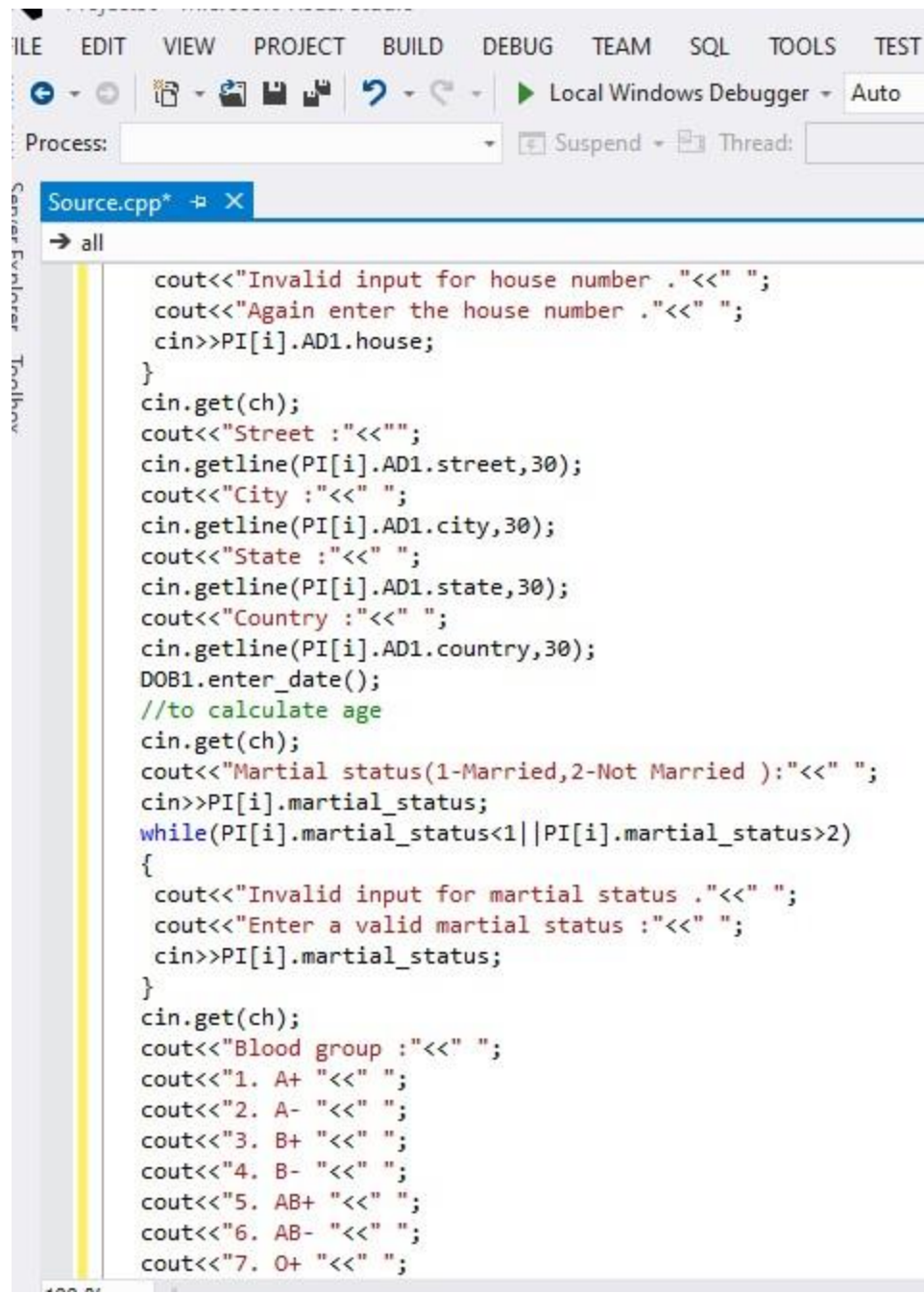
all::patient_info

```
{
    case 1:{
        A1.enter_patient_info();
        break;
    }
    case 2:{
        A1.show_patient_detail();
        break;
    }
    case 3:{
        A1.software_detail();
        break;
    }
    case 4:{
        cout<<" Thank You for trying this program !!!"<<" ";
        cout<<" This is the end of program...."<<" ";
        cout<<" Press any key to exit....."<<" ";
        getch();
        exit(0);
        break;
    }
    default:{
        cout<<" Invalid task serial ."<<" ";
        cout<<"Press any key to continue...."<<" ";
        getch();
        A1.tasks();
    }
}

void all::enter_patient_info()
{
    answer='y';
```

The screenshot shows a C++ IDE with a menu bar (FILE, EDIT, VIEW, PROJECT, BUILD, DEBUG, TEAM, SQL, TOOLS, TEST, ARCHITECTURE, A) and a toolbar with icons for navigation and execution. The 'Local Windows Debugger' is set to 'Auto'. The 'Process' dropdown is empty, and 'Suspend' and 'Thread' buttons are visible. The 'Server Explorer' and 'Toolbox' are on the left. The main editor window, titled 'Source.cpp*', shows the following code:

```
void all::enter_patient_info()
{
    answer='y';
    if(count==0)
    {
        serial=1;
    }
    else
    {
        i=serial;
    }
    for(i=serial;answer=='y' || answer=='Y';i++)
    {
        PI[i].reg_no=i;
        temp=serial;
        cout<<" ***ENTERING INFORMATION FOR PATIENT SERIAL NUMBER "<<i<<"*****"<<" ";
        cin.get(ch);
        cout<<" Registration Number : "<<PI[i].reg_no<<" ";
        cout<<"Enter the name of patient : "<<" ";
        cin.getline(PI[i].name,50);
        cout<<"Sex (1-Male 2-Female) : "<<" ";
        cin>>PI[i].sex;
        while(PI[i].sex!=1&&PI[i].sex!=2)
        {
            cout<<"Invalid input for sex of patient!!!"<<" ";
            cout<<"Sex : "<<" ";
            cin>>PI[i].sex;
        }
        cout<<" ***ENTERING ADDRESS***"<<" ";
        cout<<"House number : "<<" ";
        cin>>PI[i].AD1.house;
        while(PI[i].AD1.house<=0)
        {
```



```
FILE  EDIT  VIEW  PROJECT  BUILD  DEBUG  TEAM  SQL  TOOLS  TEST
[Icons] Local Windows Debugger Auto
Process: [Dropdown] Suspend [Icon] Thread: [Dropdown]
Source.cpp* [Icon] X
→ all
cout<<"Invalid input for house number . "<<" ";
cout<<"Again enter the house number . "<<" ";
cin>>PI[i].AD1.house;
}
cin.get(ch);
cout<<"Street : "<<" ";
cin.getline(PI[i].AD1.street,30);
cout<<"City : "<<" ";
cin.getline(PI[i].AD1.city,30);
cout<<"State : "<<" ";
cin.getline(PI[i].AD1.state,30);
cout<<"Country : "<<" ";
cin.getline(PI[i].AD1.country,30);
DOB1.enter_date();
//to calculate age
cin.get(ch);
cout<<"Martial status(1-Married,2-Not Married ):"<<" ";
cin>>PI[i].martial_status;
while(PI[i].martial_status<1||PI[i].martial_status>2)
{
    cout<<"Invalid input for martial status . "<<" ";
    cout<<"Enter a valid martial status : "<<" ";
    cin>>PI[i].martial_status;
}
cin.get(ch);
cout<<"Blood group : "<<" ";
cout<<"1. A+ "<<" ";
cout<<"2. A- "<<" ";
cout<<"3. B+ "<<" ";
cout<<"4. B- "<<" ";
cout<<"5. AB+ "<<" ";
cout<<"6. AB- "<<" ";
cout<<"7. O+ "<<" ";
```

Project50 - Microsoft Visual Studio

EDIT VIEW PROJECT BUILD DEBUG TEAM SQL TOOLS TEST ARCHITECTURE

Local Windows Debugger Auto
Process: Thread:

source.cpp*

all

```
switch(PI[i].bld_group)
{
    case 1:
    case 2:
    case 3:
    case 4:
    case 5:
    case 6:
    case 7:
    case 8:{
        break;
    }
    default:{

while(PI[i].bld_group!=1&&PI[i].bld_group!=2&&PI[i].bld_group!=3&&
PI[i].bld_group!=4&&PI[i].bld_group!=5&&PI[i].bld_group!=6&&
    PI[i].bld_group!=7&&PI[i].bld_group!=8)
    {
        cout<<"Invalid input !"<<" ";
        cout<<"Blood Group : "<<" ";
        cin>>PI[i].bld_group;
    }
    break;
}

}
cin.get(ch);
cout<<" Want to enter information for another patient ? "<<" ";
cin>>answer;
count++;
serial++;
}
A1.tasks();
```

100 %

Project50 - Microsoft Visual Studio

FILE EDIT VIEW PROJECT BUILD DEBUG TEAM SQL TOOLS

Local Windows Debugger

Process: Suspend Thread:

Source.cpp* X

all

```
}

void dob::enter_date()
{
    cout<<" Date of birth"<<" ";
    cout<<" Year :";
    cin>>DOB11[temp].year;
    if(DOB11[temp].year<=0||DOB11[temp].year>10000)
    {
        do
        {
            clrerr();
            cout<<"Invalid input for year !"<<"\n";
            cout<<"Please enter the year correctly : "<<"\n";
            cin>>DOB11[temp].year;
        }while(DOB11[temp].year<=0||DOB11[temp].year>10000);
    }
    clrerr();
    cout<<"Month :";
    clrerr();
    cin>>DOB11[temp].month;
    if(DOB11[temp].month<=0||DOB11[temp].month>12)
    {
        do
        {
            clrerr();
            cout<<"Invalid input for month !"<<"\n";
            cout<<"Again enter the month : "<<"\n";
            clrerr();
            if(count!=0)
            {
                clrerr();
            }
            cin>>DOB11[temp].month;
        }while(DOB11[temp].month<=0||DOB11[temp].month>12);
    }
    cout<<"Date :";
    clrerr();
    switch(DOB11[temp].month)
    {
        case 1:
```

Project50 - Microsoft Visual Studio

FILE EDIT VIEW PROJECT BUILD DEBUG TEAM SQL

Local Windows Debug

Process: Suspend Threa

Source.cpp* X

→ all

```
case 3:
case 5:
case 7:
case 8:
case 10:
case 12:{
    cin>>DOB11[temp].date;
    while(DOB11[temp].date<1||DOB11[temp].date>31)
    {
        clrerr();
        cout<<"Invalid date !"<<"\n";
        cout<<"Again enter the date : "<<"\n";
        clrerr();
        cin>>DOB11[temp].date;
    }
    break;
}
case 2:{
    cin>>DOB11[temp].date;
    if(DOB11[temp].year%4==0)
    {
        while(DOB11[temp].date<0||DOB11[temp].date>29)
        //for leap year
        {
            clrerr();
            cout<<"Invalid date !"<<"\n";
            cout<<"Again enter the date : "<<"\n";
            clrerr();
            cin>>DOB11[temp].date;
        }
    }
    else
    {
        while(DOB11[temp].date<0||DOB11[temp].date>28)
        //for non-leap year
        {
            clrerr();
            cout<<"Invalid date !"<<"\n";
            cout<<"Again enter the date : "<<"\n";
            clrerr();
        }
    }
}
```

FILE EDIT VIEW PROJECT BUILD DEBUG TEAM SQL

Local Windows Debug

Process: Suspend Threa

Source.cpp* X

→ all

```
default:{
    cin>>DOB11[temp].date;
    while(DOB11[temp].date<1||DOB11[temp].date>30)
    {
        clrerr();
        cout<<"Invalid date !"<<"
";
        cout<<"Again enter the date : "<<"
";
        clrerr();
        cin>>DOB11[temp].date;
    }
    break;
}
//end of switch
clrerr();
}

void date::enter_date()
{
    cout<<"
";
    First of all I need the current date ..."<<"
";
    cout<<"
";
    Year : "
";
    cin>>year;
    if(year<=0||year>10000)
    {
        do
        {
            cout<<"Invalid input for year !"<<"
";
            cout<<"Please enter the year correctly : "<<"
";
            cin>>year;
        }while(year<0||year>10000);
    }
    cout<<"Month : ";
    cin>>month;
    if(month<=0||month>12)
    {
        do
        {
            cout<<"Invalid input for month !"<<"
";
            cin>>month;
        }while(month<=0||month>12);
    }
}
```

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Project: Microsoft Visual Studio

FILE EDIT VIEW PROJECT BUILD DEBUG TEAM SQL

Local Windows D

Process: Suspend

Source.cpp

all

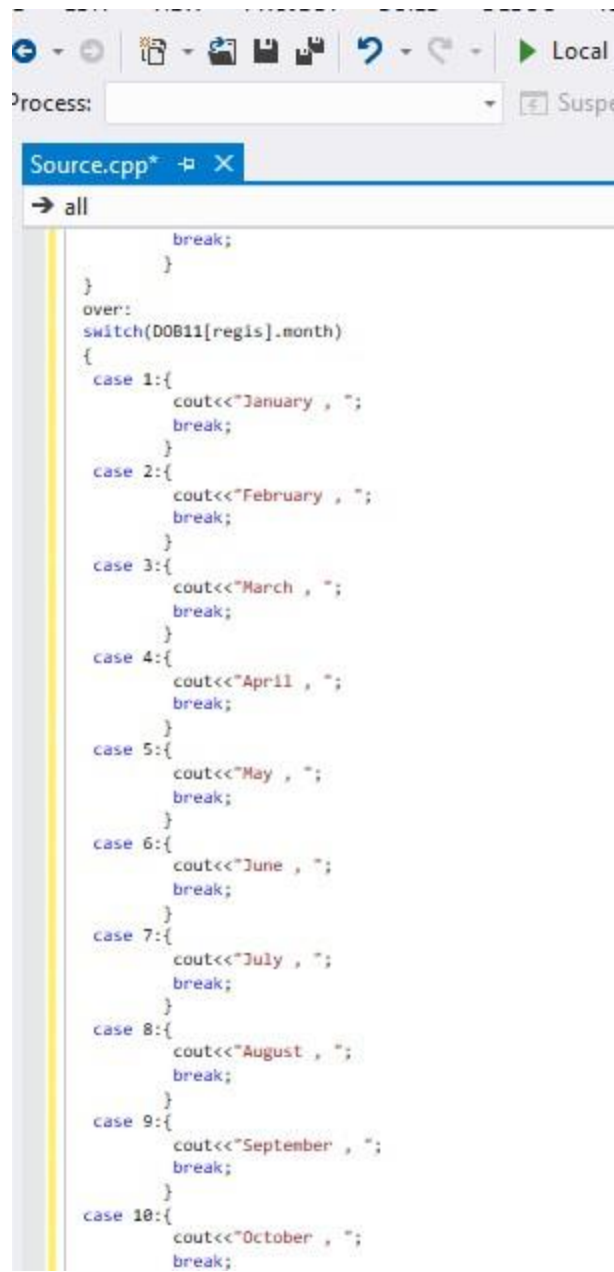
```
cout<<"Date :";
switch(month)
{
    case 1:
    case 3:
    case 5:
    case 7:
    case 8:
    case 10:
    case 12:{
        cin>>date;
        while(date<1||date>31)
        {
            cout<<"Invalid date !"<<"\n";
            cout<<"Again enter the date :"<<"\n";
            cin>>date;
        }
        break;
    }
    case 2:{
        cin>>date;
        if(year%4==0)
        {
            while(date<0||date>29) //for leap year
            {
                cout<<"Invalid date !"<<"\n";
                cout<<"Again enter the date :"<<"\n";
                cin>>date;
            }
        }
        else
        {
            while(date<0||date>28) //for non-leap year
            {
                cout<<"Invalid date !"<<"\n";
                cout<<"Again enter the date :"<<"\n";
                cin>>date;
            }
        }
    }
}
```



The image shows a screenshot of a C++ source code editor, likely Visual Studio, with the title bar indicating it is the 'Local Windows Debugger'. The editor window shows a file named 'urce.cpp' with a tab icon and a close button. The code is as follows:

```
all
}

void date::show_date() //remove the goto sttements in this function
{
    clrscr();
    cout<<"Hello....";
    It's ";
    cout<<date;
    rem=date%10;
    switch(date)
    {
        case 11:
        case 12:
        case 13:
        case 14:
        case 15:
        case 16:
        case 17:
        case 18:
        case 19:
        case 20:{
            cout<<"th ";
            goto over;
        }
    }
    switch(rem)
    {
        case 1:{
            cout<<"st ";
            break;
        }
        case 2:{
            cout<<"nd ";
            break;
        }
        case 3:{
            cout<<"rd ";
            break;
        }
        default:{
            cout<<"th ";
            break;
        }
    }
    over:
    switch(month)
```



The screenshot shows a C++ IDE window titled "Source.cpp*". The code is a switch statement that iterates over the months of the year. The switch statement is labeled "over:" and the variable being switched on is "DOB11[regis].month". The cases are numbered 1 through 10, each corresponding to a month from January to October. Each case prints the month name followed by a space and a newline character, and then breaks out of the switch. The code is as follows:

```
        break;
    }
}
over:
switch(DOB11[regis].month)
{
    case 1:{
        cout<<"January , ";
        break;
    }
    case 2:{
        cout<<"February , ";
        break;
    }
    case 3:{
        cout<<"March , ";
        break;
    }
    case 4:{
        cout<<"April , ";
        break;
    }
    case 5:{
        cout<<"May , ";
        break;
    }
    case 6:{
        cout<<"June , ";
        break;
    }
    case 7:{
        cout<<"July , ";
        break;
    }
    case 8:{
        cout<<"August , ";
        break;
    }
    case 9:{
        cout<<"September , ";
        break;
    }
    case 10:{
        cout<<"October , ";
        break;
    }
}
```