Practical: 16 Write a c++ program :

a) to illustrate multilevel inheritance.

```cpp
#include<iostream>

using namespace std;

class student

{

protected : int rollno;

public :

    void get_num();

    void put_num();

};

void student::get_num()

{

    cout<<"\nEnter the roll number:\t";

    cin>>rollno;

}

void student::put_num()

{

    cout<<"Rollnumber: "<<rollno;

}

class test:public student

{

protected : float sub1,sub2;

public:

    void get_marks()

    {
```
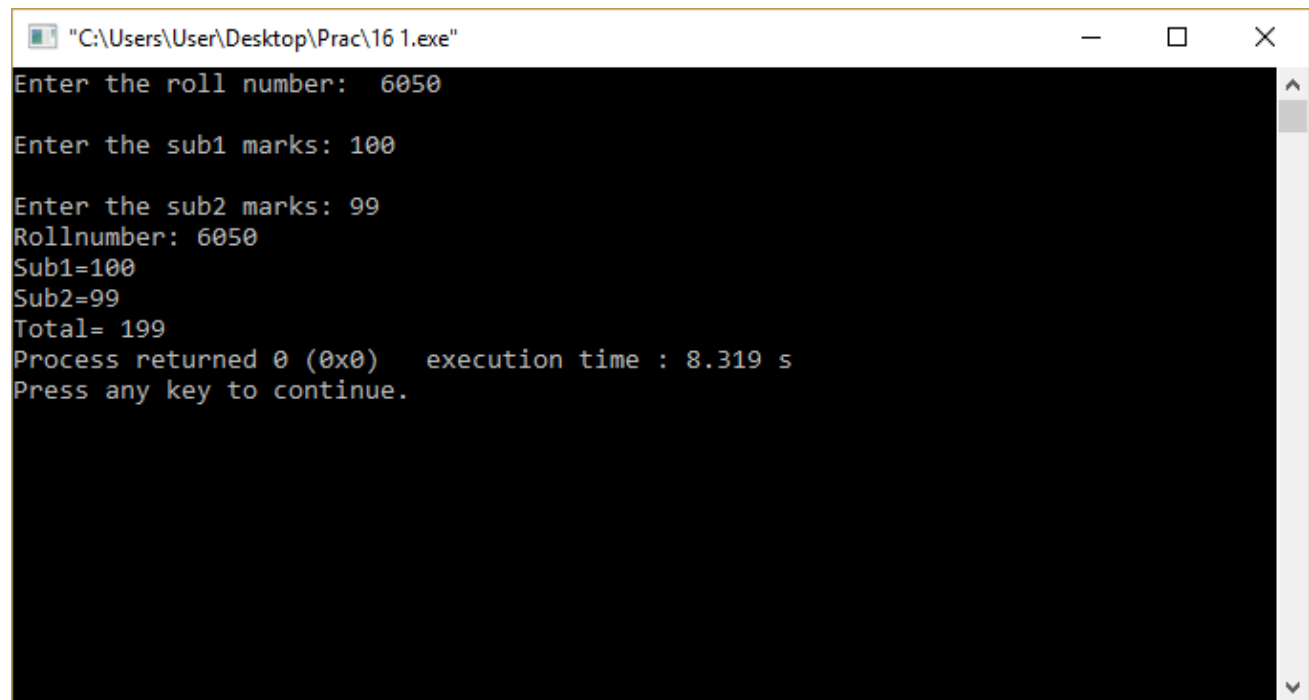
```cpp
        cout<<"\nEnter the sub1 marks: ";

        cin>>sub1;

        cout<<"\nEnter the sub2 marks: ";

        cin>>sub2;

    }
void put_marks()

{

    cout<<"\nSub1="<<sub1;

    cout<<"\nSub2="<<sub2;

}

};

class result : public test

{

    float total;

public:

    void display()

    {

        total=sub1+sub2;

        put_num();

        put_marks();

        cout<<"\nTotal= "<<total;

    }

};

int main()

{

    result r;

    r.get_num();
```

```
    r.get_marks();

    r.display();

    return 0;

}
```

Output 16

"C:\Users\User\Desktop\Prac\16 1.exe"

```
Enter the roll number:  6050

Enter the sub1 marks: 100

Enter the sub2 marks: 99
Rollnumber: 6050
Sub1=100
Sub2=99
Total= 199
Process returned 0 (0x0)   execution time : 8.319 s
Press any key to continue.
```

b) to illustrate multiple inheritance.

```cpp
#include<iostream>

using namespace std;

class m
{
protected : int m;
public:
    void getm()
    {
        cout<<"\nEnter the value for m : ";
        cin>>m;
    }
};
class n
{
protected : int n;
public:
    void getn()
    {
        cout<<"\nEnter the value for n : ";
        cin>>n;
    }
};
class p : public m , public n
{
public:
    void display()
```
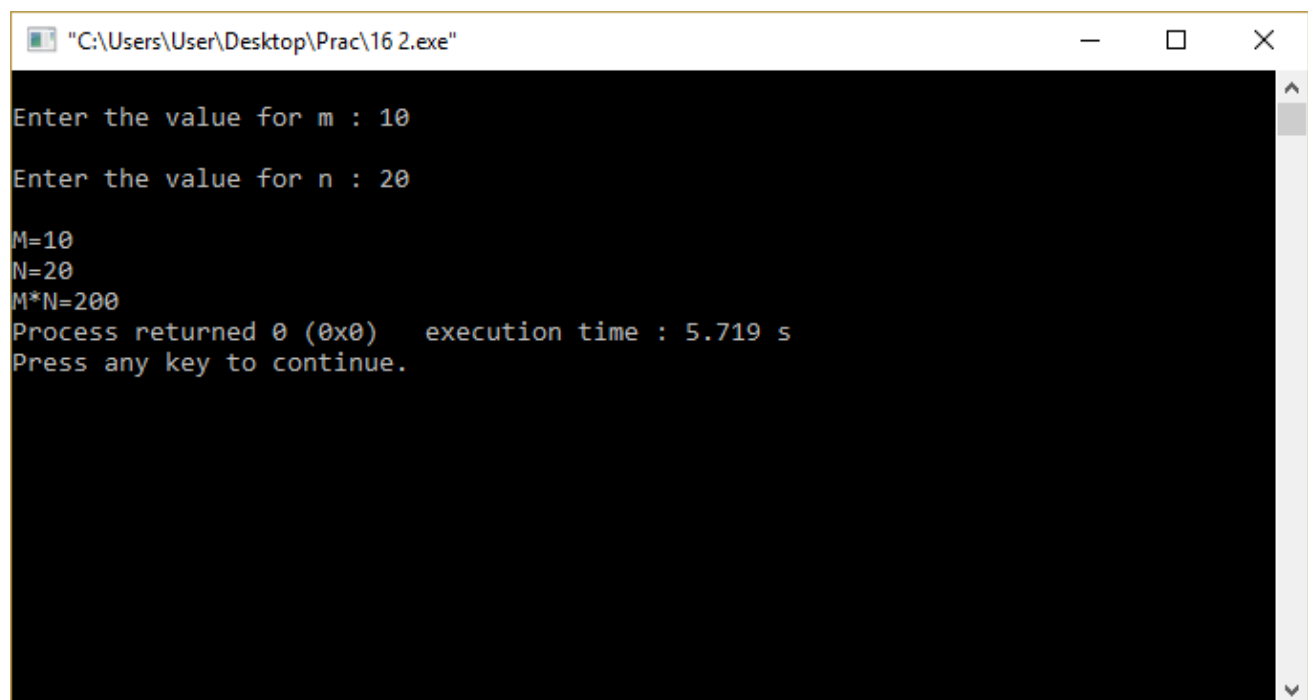
```
    {

        cout<<"\nM="<<m;

        cout<<"\nN="<<n;

        cout<<"\nM*N="<<m*n;

    }

};

int main()

{

    p p1;

    p1.getm();

    p1.getn();

    p1.display();

    return 0;

}
```

Output 16


```
"C:\Users\User\Desktop\Prac\16 2.exe"                        —    □    ×

Enter the value for m : 10

Enter the value for n : 20

M=10
N=20
M*N=200
Process returned 0 (0x0)    execution time : 5.719 s
Press any key to continue.
```