C++ - LAB-9

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25.	Write a program to implement multilevel inheritance.

Ans: Source Code:

```
// Multilevel Inheritance
#include <bits/stdc++.h>
using namespace std;
class student
{
    protected:
    int roll_no;
    void put_no(void)
    {
        cout << "Roll Number = " << roll_no << "\n";
    }

    public:
    void get_no(int a)
    {
        roll_no = a;
    }

};

class test:public student // protected becomes protected and public becomes pu
blic
{
    protected:
    float sub1;
    float sub2;
    void put_marks(void)
    {
        cout << "Marks in Sub1 = " << sub1 << "\n";
```

```
        cout << "Marks in Sub2 = " << sub2 << "\n";
    }

    public:
    void get_marks(float a, float b)
    {
        sub1 = a;
        sub2 = b;
    }
};

class result : public test
{
    float total;

    public:
    void display(void)
    {
        total = sub1 + sub2;
        put_no();
        put_marks();
        cout << "Total = " << total << "\n";
    }
};
int main()
{
    int r;
    float e,d;
    cout << "Enter roll number and marks of student in Sub1 and Sub2 resp. :";
    cin >> r >> e >> d;

    result student1;

    student1.get_no(r);
    student1.get_marks(e, d);
    student1.display();
    return 0;
}
```

Output:

Roll Number = 100

Marks in Sub1 = 20

Marks in Sub2 = 19

Total = 39

26.	Write a program to implement multiple inheritance.

Ans: Source Code:

```
// Multiple inheritance
#include <bits/stdc++.h>
using namespace std;
class base_1
{
    protected:
    int a;
    public:
    void getadata(int);
};

class base_2
{
    protected:
    int b;
    public:
    void getadata1(int);
};

class der : public base_1, public base_2
{
    int c;
    int mul(void);
    public:
    void display(void);
};

void base_1 :: getadata(int a1)
{
    a=a1;
}
void base_2 :: getadata1(int b1)
{
    b=b1;
}

int der :: mul(void)
```

```
{
    c = a * b;
    return(c);
}

void der :: display(void)
{
    cout << "Value of a = " << a << "\n";
    cout << "Value of b = " << b << "\n";
    cout << "Value of c = " << mul() << "\n";
}
int main()
{
    der obj;
    obj.getadata(12);
    obj.getadata1(13);
    obj.display();
    return 0;
}
```

Output:

Value of a = 12

Value of b = 13

Value of c = 156