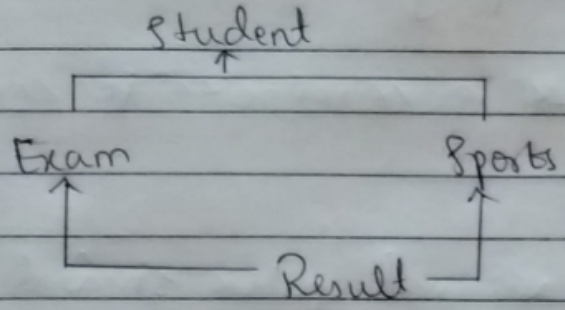
2. A new scheme of evaluation of student's performance is formulated that gives weightage for sports. The relationships of different classes and derived classes are given below.



By properly assuming the data member & member functions for each class, write a C++ program to model the above relationship such that members of the student class are not inherited twice.

Program:

```
// Author Name: Al-Fareed
// Reg No: 21097C0049
// Date of Creation: 4-Jan-22
// Program Name: Program to perform evaluation of student
// ---------------------------------
#include<iostream>
using namespace std;
class student
{
    int rollno;
    char name[20];
public:
    void read_data()
    {
        cout<<"\n Enter the rollno:";
        cin>>rollno;
```

```
    cout<<"\n Enter the name: ";
    cin>>name;
}
void display()
{
    cout<<"\n"<<rollno<<"\t"<<name;
}
};
class Exam: virtual public student
{
public: int marks[4];
    void read_marks()
    {
    cout<<"\n Enter marks in 4 sub: ";
    for(i=0; i<4; i++)
    {
        cin>>marks[i];
    }
}
    void marks_display()
{
    for(i=0; i<4; i++)
    {
        cout<<"\t"<<marks[i];
    }
}
};
class sports: virtual public student
{
public: int sports_marks;
    void read_sports_marks()
{
```

```
cout<<"\n Enter marks scored in Sports :";
cin>>sports_marks;
}
void sm_display()
{
    cout<<" \t" << sports_marks;
}
};
class Result: public Exam, public Sports
{
    float total, avg;
    public: void cal()
    {
        for(i=0; i<4; i++)
        { total + marks[i];
        total = total + sports_marks;
        avg = (total/400) * 100;
        }
        void result_display()
    {
        Exam:: marks_display();
        Sports:: sm_display();
        cout<<"\t"<< total<<"\t"<<avg<<endl;
        }
};
int main()
{
    Result r;
    r. read_data();
    r. read_marks();
    r. read_sports_marks();
    r.cal();
```

```
cout << "\n Rollno \t Name \t M1 \t M2 \t M3 \t M4 \t
Sports \t Total \t Percentage ";
cout << "\n ---------- ";
x.display();
x.result_display();
return 0;
}
```

OUTPUT:

Enter the rollno: 101
Enter the name: Sam
Enter marks in 4 Sub: 15 15 15 15
Enter marks in sports: 15

Rollno	Name	M1	M2	M3	M4	Sports	Total	Percentage
101	Sam	15	15	15	15	15	75	75