

```
#include <iostream>

using namespace std;

class Person
{
protected:
    char name[100];
    float age;
    int id;
public:
    void readper()
    {
        cout<<"Enter name: "<<endl;
        cin>>name;
        cout<<"Enter age: "<<endl;
        cin>>age;
        cout<<"Enter id: "<<endl;
        cin>>id;
    }
    void showper()
    {
        cout<<"Name: "<<name<<endl;
        cout<<"Age: "<<age<<endl;
        cout<<"ID: "<<id<<endl;
    }
};

class Employee: public Person
{

```

protected:

char deg;

float bs,overtim,hr_rate;

public:

void reademp()

{

readper();

cout<<"Enter Deg: "<<endl;

cin>>deg;

cout<<"Enter Basic Salary: "<<endl;

cin>>bs;

cout<<"Enter overtime: "<<endl;

cin>>overtim;

cout<<"Hourly Rate: "<<endl;

cin>>hr_rate;

}

void showemp()

{

showper();

cout<<"Deg: "<<deg<<endl;

cout<<"Basic Salary: "<<bs<<endl;

cout<<"Overtime: "<<overtim<<endl;

cout<<"Hourly Rate: "<<hr_rate<<endl;

}

};

class ComputedSalary: public Employee

{

public:

```
void showsal()
```

```
{
```

```
    showemp();
```

```
    cout<<"Net Salary: "<<bs+(overtim*hr_rate)<<endl;
```

```
}
```

```
};
```

```
int main()
```

```
{
```

```
    ComputedSalary e1;
```

```
    e1.reademp();
```

```
    e1.showsal();
```

```
    return 0;
```

```
}
```

```
#include <iostream>
```

```
using namespace std;
```

```
class Publication
```

```
{
```

```
protected:
```

```
    char title[100];
```

```

    float price;
public:
    void getdata()
    {
        cout<<"Enter the title: "<<endl;
        cin>>title;
        cout<<"Enter Price: "<<endl;
        cin>>price;
    }
    void putdata()
    {
        cout<<"Title: "<<title<<endl;
        cout<<"Price: "<<price<<endl;
    }

};

class Book :public Publication
{
protected:
    int pg_count;
public:
    void getdata()
    {
        Publication::getdata();
        cout<<"Enter the page of the book: "<<endl;
        cin>>pg_count;
    }
    void putdata()

```

```
{  
    Publication::putdata();  
    cout<<"Page count of the book is: "<<pg_count<<endl;  
}  
  
};
```

```
class Tape :public Publication  
{  
protected:  
    float ply_time;  
public:  
    void getdata()  
    {  
        Publication::getdata();  
        cout<<"Enter the playing time of tape: "<<endl;  
        cin>>ply_time;  
    }  
    void putdata()  
    {  
        Publication::putdata();  
        cout<<"Playing time of tape is: "<<ply_time<<endl;  
    }  
  
};
```

```
int main()  
{
```

```
    Book B;  
    Tape T;  
    B.getdata();  
    B.putdata();  
    T.getdata();  
    T.putdata();  
    return 0;  
}
```

```
#include <iostream>
```

```
using namespace std;
```

```
class Publication  
{  
protected:  
    char title[100];  
    float price;  
public:  
    void getdata()  
    {  
        cout<<"Enter the title: "<<endl;  
        cin>>title;  
        cout<<"Enter Price: "<<endl;  
        cin>>price;  
    }  
}
```

```
void putdata()
{
    cout<<"Title: "<<title<<endl;
    cout<<"Price: "<<price<<endl;
}

};
```

```
class Sales
{
protected:
    float sales[3];
public:
    void getdata()
    {
        cout<<"Enter three sales amount: "<<endl;
        for(int i=0;i<3;i++)
        {
            cin>>sales[i];
        }
    }
    void putdata()
    {
        cout<<"The sales amount are: "<<endl;
        for(int i=0;i<3;i++)
        {
            cout<<sales[i]<<endl;
        }
    }
};
```

```
}
```

```
};
```

```
class Book :public Publication,public Sales
```

```
{
```

```
protected:
```

```
    int pg_count;
```

```
public:
```

```
    void getdata()
```

```
{
```

```
    Publication::getdata();
```

```
    Sales::getdata();
```

```
    cout<<"Enter the page of the book: "<<endl;
```

```
    cin>>pg_count;
```

```
}
```

```
    void putdata()
```

```
{
```

```
    Publication::putdata();
```

```
    cout<<"Page count of the book is: "<<pg_count<<endl;
```

```
    Sales::putdata();
```

```
}
```

```
};
```

```
class Tape :public Publication,public Sales
```



```

{
protected:
    float ply_time;
public:
    void getdata()
    {
        Publication::getdata();
        Sales::getdata();
        cout<<"Enter the playing time of tape: "<<endl;
        cin>>ply_time;
    }
    void putdata()
    {
        Publication::putdata();
        Sales::putdata();
        cout<<"Playing time of tape is: "<<ply_time<<endl;
    }

};

```

```

int main()
{
    Book B;
    Tape T;
    B.getdata();
    B.putdata();
    T.getdata();
    T.putdata();
    return 0;
}

```

```
}
```

```
#include <iostream>
```

```
using namespace std;
```

```
class Date
```

```
{
```

```
    int day,month,year;
```

```
public:
```

```
    Date()
```

```
{
```

```
}
```

```
    Date(int y,int m, int d)
```

```
{
```

```
    year=y;
```

```
    month=m;
```

```
    day=d;
```

```
}
```

```
    ~Date()
```

```
{
```

```
}
```

```

void display()
{
    cout<<"Date is: "<<year<<"/"<<month<<"/"<<day<<endl;
}
Date get()
{

}
void Set()
{
    cout<<"Enter the Date be set(YYYY MM DD):"<<endl;
    cin>>year>>month>>day;
}
};

```

```

class Time
{
    int hr,mi,sec;
public:
    Time()
    {

}

```

```

Time(int h,int m, int s)
{
    hr=h;
    mi=m;
    sec=s;

```

```
}
```

```
~Time()
```

```
{
```

```
}
```

```
void display()
```

```
{
```

```
    cout<<"Time is: "<<hr<<" hrs "<<mi<<" min "<<sec<<" sec "<<endl;
```

```
}
```

```
Time get()
```

```
{
```

```
}
```

```
void Set()
```

```
{
```

```
    cout<<"Enter the time be set(hr min sec):"<<endl;
```

```
    cin>>hr>>mi>>sec;
```

```
}
```

```
};
```

```
class DateAndTime: public Date, public Time
```

```
{
```

```
public:
```

```
    DateAndTime()
```

```
{
```

```
}
```

```
DateAndTime(int yr, int mn, int d, int hr, int mi, int s):Date(yr,mn,d),Time(hr,mi,s)
```

```
{
```

```
}
```

```
void display()
```

```
{
```

```
    Date::display();
```

```
    Time::display();
```

```
}
```

```
};
```

```
int main()
```

```
{
```

```
    DateAndTime Watch(2057,10,14,9,35,35);
```

```
    Watch.display();
```

```
    Watch.Date::Set();
```

```
    Watch.Time::Set();
```

```
    Watch.display();
```

```
    return 0;
```

```
}
```

```
#include <iostream>
```

```
#include <cstring>
```

```
using namespace std;
```

```
class Inventory
```

```
{
```

```
private:
```

```
    int quant;
```

```
    int reorder;
```

```
    double price;
```

```
    char *descrip;
```

```
public:
```

```
    Inventory(int q, int r, double p, char *d)
```

```
{
```

```
    quant=q;
```

```
    reorder=r;
```

```
    price=p;
```

```
    descrip=new char[int(sizeof(d)+1)];
```

```
    strcpy(descrip,d);
```

```
}
```

```
~Inventory()
```

```
{
```

```
    delete []descrip;
```

```
}
```

```
void print()
```

```

{
    cout<<"Total quantity: "<<quant<<endl;
    cout<<"Total reorder: "<<reorder<<endl;
    cout<<"Price: $ "<<price<<endl;
    cout<<"Description: "<<descrip<<endl;
}
};

```

```

class Auto:public Inventory

```

```

{
    char *manufacture;
public:
    Auto(int q, int r, double p, char *d, char *man):Inventory(q,r,p,d)
    {
        strcpy(manufacture,man);
    }
    ~Auto()
    {
        delete []manufacture;
    }
    void print()
    {
        Inventory::print();
        cout<<"Manufacture: "<<manufacture<<endl;
    }
};

```

```

class Transmission:public Inventory

```

```

{

```

```

    char *vendor;
public:
    Transmission(int q, int r, double p, char * d, char *ven):Inventory(q,r,p,d)
    {
        vendor=new char[int(sizeof(ven)+1)];
        strcpy(vendor,ven);
    }

    ~ Transmission ()
    {
        delete []vendor;
    }
    void print()
    {
        Inventory::print();
        cout<<"Vendor is: "<<vendor<<endl;
    }
};

int main()
{
    Auto Car(5,2,15544.91,"Car obtained from the Toyota","Unknown");
    Car.print();
    Transmission T(25,10,1789.98,"Car obtained from the Toyota","Aztec Inc.");
    T.print();
    return 0;
}

```



```
#include <iostream>
```

```
using namespace std;
```

```
class Student
```

```
{
```

```
protected:
```

```
    int rn;
```

```
    char name[20];
```

```
public:
```

```
    void getdata()
```

```
{
```

```
    cout<<"Enter roll number:"<<endl;
```

```
    cin>>rn;
```

```
    cout<<"Enter name:"<<endl;
```

```
    cin>>name;
```

```
}
```

```
    void putdata()
```

```
{
```

```
    cout<<"Roll number: "<<rn<<endl;
```

```
    cout<<"Name: "<<name<<endl;
```

```
}
```

```
};
```

```
class Internal_Exam : virtual public Student
```

```
{
```

protected:

```
int m[7];
```

public:

```
void getdata()
```

```
{
```

```
    cout<<"Enter internal marks:"<<endl;
```

```
    for(int i=0;i<7;i++)
```

```
    {
```

```
        cin>>m[i];
```

```
    }
```

```
}
```

```
void putdata()
```

```
{
```

```
    cout<<"Internal marks are:"<<endl;
```

```
    for(int i=0;i<7;i++)
```

```
    {
```

```
        cout<<m[i]<<endl;
```

```
    }
```

```
}
```

```
};
```

```
class Final_Exam : virtual public Student
```

```
{
```

protected:

```
int m[7];
```

public:

```
void getdata()
```

```
{
```

```
    cout<<"Enter final marks:"<<endl;
```

```
    for(int i=0;i<7;i++)
```

```
    {
```

```
        cin>>m[i];
```

```
    }
```

```
}
```

```
void putdata()
```

```
{
```

```
    cout<<"Final marks are:"<<endl;
```

```
    for(int i=0;i<7;i++)
```

```
    {
```

```
        cout<<m[i]<<endl;
```

```
    }
```

```
}
```

```
};
```

```
class Avg_Mark :public Internal_Exam,public Final_Exam
```

```
{
```

```
    float avgmark=0;
```

```
public:

    void getdata()
    {
        Student::getdata();
        Internal_Exam::getdata();
        Final_Exam::getdata();
    }

    void putdata()
    {
        Student::putdata();
        Internal_Exam::putdata();
        Final_Exam::putdata();
    }

    float getavg()
    {
        for(int i=0;i<7;i++)
        {
            avgmark+=Internal_Exam::m[i]+Final_Exam::m[i];
        }
        return avgmark;
    }
};
```

```
int main()
{
    Avg_Mark A;
    A.getdata();
```

```
A.putdata();  
cout<<"Total marks is: "<<A.getavg()<<endl;  
return 0;  
}
```