IPS16

Write a c++ program that inputs the students basic and academic information to calculates the result and displays the students’ information. The program should have three classes namely person, student and exam. The class person is the base class which have the members like name and ph.no . The class student is derived from person base class having private members as roll no and course, which acts as a base class for the derived class exam which includes marks and percentage as private members. The exam class inherits the features of student class directly and features of person class indirectly. In main(),the statement

e1.read();  
e1.show();

invokes the respective member functions of exam class as e1 is the object of this class. Define the methods read() and show() in the exam class, and both the member functions access same-named member function of the student class directly and person class indirectly. The statement,

e1.cal();

Invokes the member function cal() of exam class for calculating the result of a student.

**Sample Input Format:**

Enter name and phno

Enter rollno and course

Enter 4 subject marks

**Sample Output Format:**

Display the Name, Phone number, Rollno, Course, Marks, Percentage

Sample Input :

xxx

12345

1

BTECH

45

56

80

95

Sample Output:

xxx

12345

1

BTECH

45  56  80  95

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#include <iostream>

#include <string.h>

using namespace std;

class person

{public:

string name;

int ph;

};

class student:public person

{

private:

int r;

string c;

public:

int roll=r;

string course=c;

};

class exam:public student

{student s1;

private:

int i=0,m1,m2,m3,m4,ma[5];

float per;

public:

void read()

{

cin>>name;

cin>>ph;

cin>>roll;

cin>>course;

for(i=0;i<4;i++)

{

cin>>ma[i];

}

}

void show()

{

cout<<name<<endl;

cout<<ph<<endl;

cout<<roll<<endl;

cout<<course<<endl;

for(i=0;i<4;i++)

{ if(i!=3)

cout<<ma[i]<<" ";

else

cout<<ma[i];

}

}

void calc()

{

float s=0,k=0;

for(i=0;i<4;i++)

s+=ma[i];

k=s/4;

cout<<endl<<k;

}

};

int main()

{

exam e1;

e1.read();

e1.show();

e1.calc();

}