OODP WEEK 8

1.

#include<iostream>  
using namespace std;  
 class person  
{ protected:  
    char name[20];  
    int age;  
public:  
    virtual getdata()=0;  
    virtual putdata()=0;  
};  
class professor:public person  
{  
    char publications[20];  
    int curid;  
public:  
    getdata()  
    {  
        cin>>name>>age>>publications>>curid;  
    }  
    putdata()  
    {  
        cout<<name<<age<<publications<<curid;  
    }  
};  
class student:public person  
{  
    char marks[20];  
    int sum;  
public:  
    getdata()  
    {int i;  
        cin>>name>>age;  
  
        for(i=0;i<5;i++){  
            cin>>marks[i];  
        }  
    }  
    putdata()  
    {int i;  
        cout<<name<<age;  
      for(i=0;i<5;i++){  
            cout<<marks[i];  
        }  
    }  
};  
int main()  
{  
    professor obj1;  
    obj1.getdata();  
      obj1.putdata();  
    student obj2;  
     obj2.getdata();  
      obj2.putdata();  
      return 0;  
  
}

2.

#include<iostream>  
using namespace std;  
 class person  
{ protected:  
    char name[20];  
    int age;  
public:  
    virtual getdata()=0;  
    virtual putdata()=0;  
};  
class faculty:public person  
{  
    char publications[20];  
    int curid;  
public:  
    getdata()  
    {  
        cin>>name>>age>>publications>>curid;  
    }  
    putdata()  
    {  
        cout<<name<<age<<publications<<curid;  
    }  
};  
class hod:public person  
{  
  
public:  
    getdata()  
    {int i;  
        cin>>name>>age;  
    }  
    putdata()  
    {  
        cout<<name<<age;  
  
    }  
};  
int main()  
{  
    faculty obj1;  
    obj1.getdata();  
      obj1.putdata();  
    hod obj2;  
     obj2.getdata();  
      obj2.putdata();  
      return 0;  
  
}

3.

class second; //Forward  
Declaration  
class first  
{  
  
private:  
  
int x;  
  
public:  
void getdata();  
void display();  
friend int sum(first one,second two);  
};  
class second  
{  
  
private:  
  
int y;  
  
public:  
  
void getdata();  
void display();  
  
friend int sum(first one,second two);  
};

void first::getdata()  
{  
cout<<"Enter a Value for X"<<endl;  
  
cin>>x;  
  
}  
void second::getdata()  
{  
cout<<"Enter a value for Y"<<endl;  
  
cin>>y;  
  
}  
void first::display()  
{  
cout<<"Entered Number is X = ";  
}  
void second::display()  
{  
cout<<"Entered Number is Y = ";  
}  
int sum (first one,second two)  
{

int temp;  
temp = one.x + two.y;  
return(temp);  
  
}  
void main()  
{  
  
first a;  
second b;  
a.getdata();  
b.getdata();  
a.display();  
b.display();  
int te = sum(a,b);  
cout<<"Sum of the two  
Private data variable (X + Y)";

cout<<" = "<<te<<endl;  
return 0  
}

4.

#include<iostream>  
using namespace std;  
 class shape  
{  
public:  
    virtual area()=0;  
};  
class rectangle:public shape  
{  
  
  
public:  
  
  
area()  
{ int a,b;  
cin>>a>>b;  
  
    cout<<a\*b<<endl;  
}  
  
};  
class circle:public shape  
{  
  
public:  
  
    area()  
    {  
        int r;  
        cin>>r;  
        cout<<3.14\*r\*r<<endl;  
    }  
  
  
};  
class square:public shape  
{  
  
public:  
  
    area()  
    {  
        int a;  
        cin>>a;  
        cout<<a\*a<<endl;  
    }  
  
  
};  
int main()  
{  
    rectangle obj1;  
    obj1.area();  
      circle obj2;  
    obj2.area();  
      square obj3;  
    obj3.area();  
  
      return 0;  
  
}

5.

#include <iostream>

using namespace std;

class polygon

{

    public:

        virtual void getdetails() = 0;

        virtual void area() = 0;

};

class rectangle : public polygon

{

    int length, breadth;

    public:

    void getdetails()

    {

        cout<<"length"<<endl;

        cin>>length;

        cout<<"breadth"<<endl;

        cin>>breadth;

    }

    void area()

    {

        cout<<"Area of the rectangle is : "<<length \* breadth;

    }

};

class triangle : public polygon

{

    int base, height;

    public:

    void getdetails()

    {

        cout<<endl<<"base"<<endl;

        cin>>base;

        cout<<"height"<<endl;

        cin>>height;

    }

    void area()

    {

        cout<<"Area of the triangle is : "<<base \* height / 2;

    }

};

int main()

{/\*

    rectangle obj1;

    triangle obj2;

    obj1.getdetails();

    obj1.area();

    obj2.getdetails();

    obj2.area();

    \*/

    polygon \*ank = new rectangle();

    polygon \*vat = new triangle();

    ank->getdetails();

    ank->area();

    vat->getdetails();

    vat->area();

    return 0;

}