We judge a person if he is outstanding or not by the achievement in his/her profession. A professor and a student have different criteria for being called outstanding. Refer the class diagram snippet shown below and create the corresponding classes. Refer the business rules mentioned below and come up with a solution. Professor is outstanding if he has published more than 4 books. Student is outstanding if his percentage is greater than 85. The print() method of Professor displays the name and books published by professor. The display() method of Student displays the name and percentage of student. In the application main method create 5 objects of Person type, this can be few Student Objects and remaining can be Professor Objects. Every object has to be referred using Person reference (upcasting). To refer the objects, use an array of Person. Traverse through the Person array and display the person details only if the person is out-standing. The name and percentage should be displayed if the person referred is a Student. If the Person referred is a Professor, display name and books published.

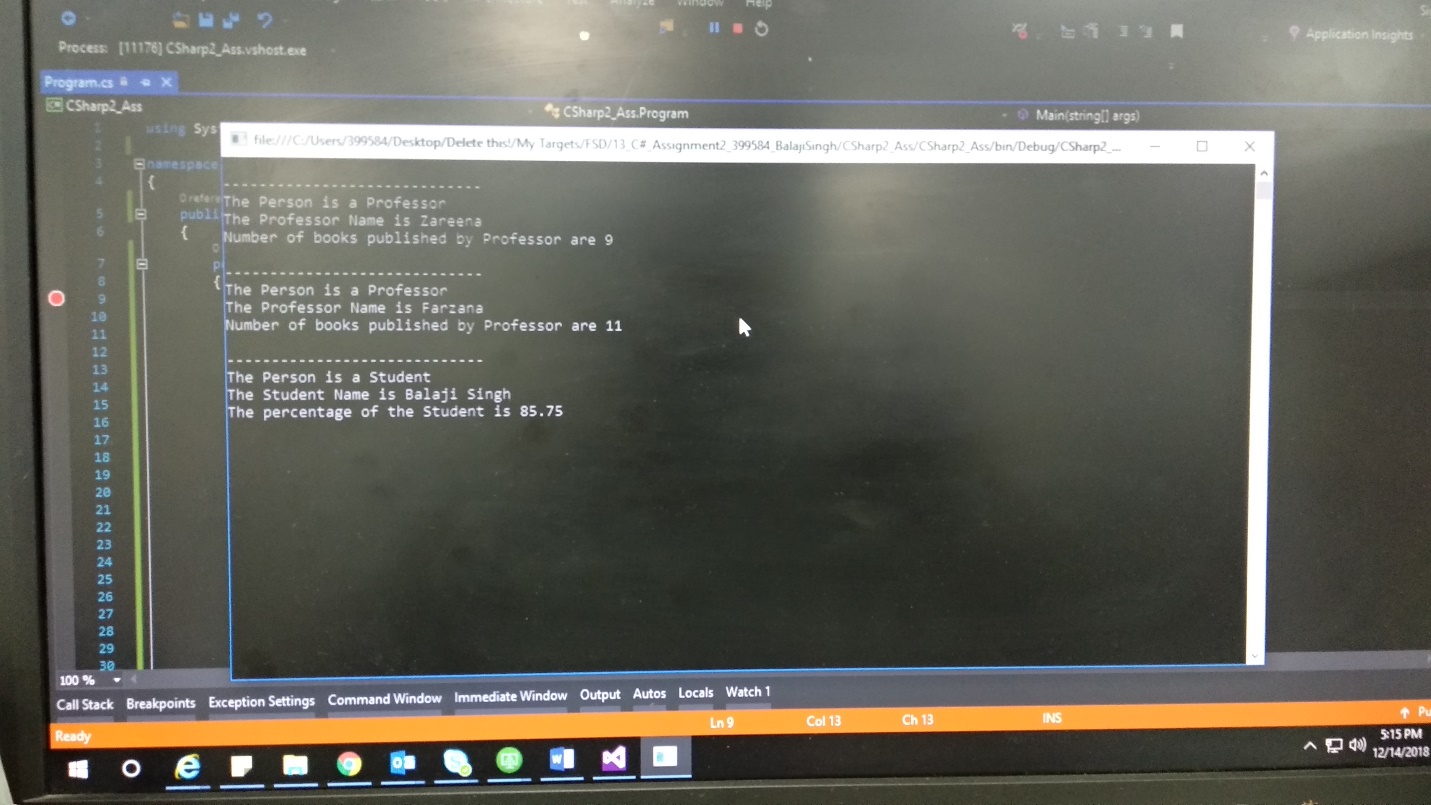
|  |
| --- |
| **Person** |
| -name |
| +Person() +Person(name) +getName(): String +setName(name: String) +isOutstanding(): boolean |

|  |
| --- |
| **Professor** |
| +booksPublished: int |
| +Professor() +Professor(name: String, booksPublished: int) +print(): void +isOutstanding(): boolean |

|  |
| --- |
| **Student** |
| +percentage: double |
| +Student() +Student(name: String, percentage: double) +display(): void +isOutstanding(): boolean |

Output and code in the next page.

**Output:**

****

**Code:**

using System;

namespace CSharp2\_Ass

{

public class Program

{

public static void Main(string[] args)

{

Person[] personArray = new Person[5];

personArray[0] = new Professor("Zareena", 9);

personArray[1] = new Professor("Bhogeerappa", 1);

personArray[2] = new Professor("Farzana", 11);

personArray[3] = new Student("Balaji Singh", 85.75);

personArray[4] = new Student("Rakesh Arveti", 52.69);

//Professor zareena = new Professor("Zareena", 9);

//Professor Bhogeerappa = new Professor("Bhogeerappa", 1);

//Professor farzana = new Professor("Farzana", 11);

//Student balaji = new Student("Balaji Singh", 84.75);

//Student rakesh = new Student("Rakesh Arveti", 52.69);

foreach (Person person in personArray)

{

if (person.isOutstanding())

{

if (person.GetType() == typeof(Professor))

{

person.print();

}

else

{

person.display();

}

}

}

Console.ReadLine();

}

}

public class Person

{

protected string name { get; set; }

public Person()

{

}

public Person(string personName)

{

name = personName;

}

public string getName()

{

return name;

}

public void setName(string personName)

{

name = personName;

}

public virtual bool isOutstanding()

{

return false;

}

public virtual void print()

{

}

public virtual void display()

{

}

}

public class Professor : Person

{

Person person = new Person();

public int booksPublished { get; set; }

public Professor()

{

}

public Professor(string ProfessorName, int noOfbooks)

{

person.setName(ProfessorName);

booksPublished = noOfbooks;

}

public override void print()

{

Console.WriteLine("\n-----------------------------");

Console.WriteLine("The Person is a Professor");

Console.WriteLine("The Professor Name is " + person.getName());

Console.WriteLine("Number of books published by Professor are " + booksPublished);

}

public override bool isOutstanding()

{

if (booksPublished < 4)

return false;

else

return true;

}

}

public class Student : Person

{

Person person = new Person();

public double percentage { get; set; }

public Student()

{

}

public Student(string StudentName, double Studentpercentage)

{

person.setName(StudentName);

percentage = Studentpercentage;

}

public override void display()

{

Console.WriteLine("\n-----------------------------");

Console.WriteLine("The Person is a Student");

Console.WriteLine("The Student Name is " + person.getName());

Console.WriteLine("The percentage of the Student is " + percentage);

}

public override bool isOutstanding()

{

if (percentage < 85)

return false;

else

return true;

}

}

}