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Topic: Inheritance
Task:
Create a C# program for collecting details of college details with a classes Staff details and student details.
CODE:
Program .cs

```
using consoleapp3;

//StaticDemo.Calc();
//Console.WriteLine("Amout to be paid $" + StaticDemo.Amt);
/*
StudentGrade studentMarks = new StudentGrade(50, "Nandhini", "cbe", 90, 89, 98);

Console.WriteLine(studentMarks.Name);
Console.WriteLine(studentMarks.Rolno);
Console.WriteLine(studentMarks.Address);
Console.WriteLine(studentMarks.CalculateTotal());
Console.WriteLine(studentMarks.CalculateAverage());
*/
StudentGrade studentMarks = new StudentGrade(50, "Nandhini", "Coimbatore", 90, 89, 98,
"KEC", "Erode");
TeachingStaff teachingStaff = new(1,"nandhini","Add","IT","KEC","Erode",10000,45,20,10,5);
NonTeachingStaff nonTeachingStaff = new(1, "nandhini", "add", "KEC", "Erode", 10000, 34, 20,
10, 5);

Console.WriteLine($"STudent name: {studentMarks.Name},Roll No:
{studentMarks.Rolno},Average:{studentMarks.CalculateAverage()}");

Console.WriteLine($"Teaching Staff name:{teachingStaff.Name} Department :
{teachingStaff.Dept} Basic Salary: {teachingStaff.Basicsalary}");
Console.WriteLine($" Final Slary :{teachingStaff.CalculateSalary()}");

Console.WriteLine($"Non Teaching Staff name:{nonTeachingStaff.Name}");
Console.WriteLine($" Final Slary :{nonTeachingStaff.CalculateSalary()}");
```

Staff details.cs

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
```

```
using System.Threading.Tasks;

namespace consoleapp3
{
    class StaffDetails:College
   {
       private int  eno;
       private string? name,address;

       public StaffDetails(int eno, string? name, string? address, string? collegeName, string?
collegeaddress):base(collegeName, collegeaddress)
       {
           Eno = eno;
           Name = name;
           Address = address;
       }

       public int Eno { get => eno; set => eno = value; }
       public string? Name { get => name; set => name = value; }
       public string? Address { get => address; set => address = value; }
   }
}
```

Teaching staff:

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace consoleapp3
{
    class TeachingStaff:StaffDetails
   {
       private string? dept;
       private double basicsalary;
       private readonly int _da, _hra, _cca, _pf;

       public TeachingStaff(int eno, string? name, string? address,
           string? collegeName, string? collegeaddress,
           string? dept, double basicsalary, int da, int hra, int cca, int pf)
           : base(eno, name, address, collegeName, collegeaddress)
       {
           this.dept = dept;
```

```
        this.basicsalary = basicsalary;
        _da = da;
        _hra = hra;
        _cca = cca;
        _pf = pf;
    }




    public string? Dept { get => dept; set => dept = value; }
    public double Basicsalary { get => basicsalary; set => basicsalary = value; }

    public int Da => _da;

    public int Hra => _hra;

    public int Cca => _cca;

    public int Pf => _pf;

    public float CalculateSalary()
    {
        float netsalary = (float)(Basicsalary+
            ((Basicsalary*((float)Da/100))
            +(Basicsalary*((float)Hra /100))+
            (Basicsalary*((float)Cca /100))-
            (Basicsalary*((float)Pf /100))
            ));
        return netsalary;
    }


  }
}
```

Non Teaching Staff:

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;
```

```
namespace consoleapp3
{
    class NonTeachingStaff:StaffDetails
   {
       private double basicsalary;
       private readonly int _da, _hra, _cca, _pf;

       public NonTeachingStaff(int eno, string? name, string? address,
           string? collegeName, string? collegeaddress,
            double basicsalary, int da, int hra, int cca, int pf)
           : base(eno, name, address, collegeName, collegeaddress)
       {
           this.Basicsalary = basicsalary;
           _da = da;
           _hra = hra;
           _cca = cca;
           _pf = pf;
       }
       public double Basicsalary { get => basicsalary; set => basicsalary = value; }

       public int Da => _da;

       public int Hra => _hra;

       public int Cca => _cca;

       public int Pf => _pf;
       public float CalculateSalary()
       {
           float netsalary = (float)(Basicsalary +
               ((Basicsalary * ((float)Da / 100))
               + (Basicsalary * ((float)Hra / 100)) +
               (Basicsalary * ((float)Cca / 100)) -
               (Basicsalary * ((float)Pf / 100))
               ));
           return netsalary;
       }


   }
}
```

Students Details:

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace consoleapp3
{
   class StudentDetails:College
   {
      private int rolno;
      private string? name;
      private string? address;

      public StudentDetails(int rolno, string? name, string? address, string? collegeName, string?
collegeaddress) : base(collegeName, collegeaddress)

      {
         Rolno = rolno;
         Name = name;
         Address = address;
      }

      public int Rolno { get => rolno; set => rolno = value; }
      public string? Name { get => name; set => name = value; }
      public string? Address { get => address; set => address = value; }



   }
}
```

Student Marks:

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace consoleapp3
{
```

```
    class StudentMarks : StudentDetails
    {
        private int m1, m2, m3;

        public StudentMarks(int rolno, string name, string address,int m1, int m2, int m3, string?
collegeName, string? collegeaddress) :base(rolno,name,address, collegeName,
collegeaddress)
        {
            this.m1 = m1;
            this.m2 = m2;
            this.m3 = m3;
        }

        public int M1 { get => m1; set => m1 = value; }
        public int M2 { get => m2; set => m2 = value; }
        public int M3 { get => m3; set => m3 = value; }

        public int CalculateTotal()
        {
            int total;
            total = m1+m2+m3;
            return total;
        }
        public double CalculateAverage()
        {
          return (m1+m2+m3)/3;
        }
    }
}
```

Students Grade:

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace consoleapp3
{
     class StudentGrade : StudentMarks
    {
        public StudentGrade(int rolno, string name, string address, int m1, int m2, int m3, string?
collegeName, string? collegeaddress) : base(rolno, name, address, m1, m2, m3,collegeName,
collegeaddress)
```

```
        {

        }
        public char CalculateGrade()
        {
            double average=CalculateAverage();
            if(average>90)
            {
                return 'A';
            }
            else if(average<50)
            {
                return 'B';

            }
            else
            {
                return 'C';
            }

        }
    }
}
```

OUTPUT: