**INHERITANCE:**

using System;

namespace \_Assignment

{

class Member

{

string name;

int age;

string address;

int salary;

string phone\_no;

public virtual void GetDetails()

{

Console.WriteLine("Enter name:");

name = Console.ReadLine();

Console.WriteLine("Enter age:");

age = Convert.ToInt32(Console.ReadLine());

Console.WriteLine("Enter phone number:");

phone\_no = Console.ReadLine();

if (phone\_no == @"^(\+[0-9])$")

{ }

Console.WriteLine("Enter address:");

address = Console.ReadLine();

Console.WriteLine("Enter salary:");

salary = Convert.ToInt32(Console.ReadLine());

}

public virtual void DisplayDetails()

{

Console.WriteLine("name is:" + name);

Console.WriteLine("age is:" + age);

Console.WriteLine("phone number is is:" + phone\_no);

Console.WriteLine("address is:" + address);

Console.WriteLine("salary is:" + salary);

}

public void printSalary()

{

Console.WriteLine("salary is" + salary);

}

}

class Manager : Member

{

string specialization;

string department;

public override void GetDetails()

{

base.GetDetails();

Console.WriteLine("Manager details:");

Console.WriteLine("Enter specialization of member");

specialization = Console.ReadLine();

Console.WriteLine("Enter department of member");

department = Console.ReadLine();

}

public override void DisplayDetails()

{

Console.WriteLine("Manager details is");

base.DisplayDetails();

Console.WriteLine("specialization is:" + specialization);

Console.WriteLine("department is:" + department);

}

}

class Employee : Member

{

string specialization;

string department;

public override void GetDetails()

{

base.GetDetails();

Console.WriteLine("employee details:");

Console.WriteLine("Enter specialization of member");

specialization = Console.ReadLine();

Console.WriteLine("Enter department of member");

department = Console.ReadLine();

}

public override void DisplayDetails()

{

Console.WriteLine("Employee details is");

base.DisplayDetails();

Console.WriteLine("specialization is:" + specialization);

Console.WriteLine("department is:" + department);

}

}

class Program

{

static void Main(string[] args)

{

Member m = new Member();

Manager ma = new Manager();

m = ma;

m.GetDetails();

m.DisplayDetails();

m.printSalary();

Employee e = new Employee();

m = e;

m.GetDetails();

m.DisplayDetails();

m.printSalary();

}

}

}

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**ABSTRACT CLASS:**

**1**

using System;

namespace ConsoleApp3

{

abstract class Marks

{

public abstract float getPercentage();

}

class A : Marks

{

private int mark1, mark2, mark3;

public override float getPercentage()

{

float perc = ((mark1 + mark2 + mark3) / (float)300) \* 100;

return perc;

}

public A(int m1, int m2, int m3)

{

mark1 = m1;

mark2 = m2;

mark3 = m3;

}

}

class B : Marks

{

private int mark1, mark2, mark3;

public override float getPercentage()

{

float perc = ((mark1 + mark2 + mark3) / (float)300) \* 100;

return perc;

}

public B(int m1, int m2, int m3)

{

mark1 = m1;

mark2 = m2;

mark3 = m3;

}

}

class Program

{

static void Main(string[] args)

{

A ob1 = new A(70, 80, 90);

Console.WriteLine(ob1.getPercentage());

B ob2 = new B(90, 80, 90);

Console.WriteLine("Percentage is " + (ob2.getPercentage()));

}

}

}

**2**

using System;

namespace ConsoleApp3

{

public abstract class Animals

{

public abstract void cats();

public abstract void dogs();

}

class Cats : Animals

{

public override void cats() //Inherited from abstract class

{

Console.WriteLine("Cats Meow");

}

public override void dogs()

{

}

}

class Dogs : Animals

{

public override void cats()

{

}

override public void dogs()

{

Console.WriteLine("Dogs bark");

}

}

class Program

{

static void Main(string[] args)

{

Cats c = new Cats();

c.cats();

Dogs d = new Dogs();

d.dogs();

}

}

}