using System;

using System.Collections.Generic;

using System.Linq;

using System.Text;

using System.Threading.Tasks;

namespace Demos

{

sealed class Demo

{

public int id;

public void Get() { }

}

// Not allowed

//class Demo1: : Demo

//{

//}

}

Polymorphism

One name different forms

1. Compile time > is achieved by Method Overloading
2. Run time > is achieved by Method Overloading

Method Overloading

using System;

using System.Collections.Generic;

using System.Linq;

using System.Text;

using System.Threading.Tasks;

namespace Demos

{

class WithOverloading

{

static void Add(int x, int y)

{

Console.WriteLine(x + y); ;

}

static void Add(int x, int y, int z)

{

Console.WriteLine(x + y + z); ;

}

static void Add(float x, float y)

{

Console.WriteLine(x + y); ;

}

// It does not focus on return type

//static int Add(float x, float y)

//{

// Console.WriteLine(x + y); ;

//}

static void Add(int x, float y)

{

Console.WriteLine(x+y);

}

static void Add (float x, int y)

{

Console.WriteLine(x+y);

}

static void Add(string x, string y)

{

Console.WriteLine(string.Concat(x, " " ,y));

}

static void Main()

{

Add(1, 2);

Add("a", "b");

}

}

}

Method Overriding

using System;

using System.Collections.Generic;

using System.Linq;

using System.Text;

using System.Threading.Tasks;

namespace Demos

{

class Employee

{

public virtual void GetDetails() { Console.WriteLine("Inside Employee Get Method"); }

public virtual void DisplayDetails() { Console.WriteLine("Inside Employee Display Method"); }

}

class PartTimEmployee : Employee

{

public override void GetDetails() { Console.WriteLine("Inside PartTimEmployee Get Method"); }

public override void DisplayDetails() { Console.WriteLine("Inside PartTimEmployee Display Method"); }

}

class FullTimEmployee : Employee

{

public override void GetDetails() { Console.WriteLine("Inside FullTimEmployee Get Method"); }

public override void DisplayDetails() { Console.WriteLine("Inside FullTimEmployee Display Method"); }

}

class MethodOverridingDemo

{

static void Main()

{

Console.WriteLine("Employee Class");

Employee employee = new Employee();

employee.GetDetails();

employee.DisplayDetails();

Console.WriteLine("PartTimeEmployee Class");

PartTimEmployee part = new PartTimEmployee();

employee = part;

employee.GetDetails();

employee.DisplayDetails();

}

}

}

Properties

using System;

using System.Collections.Generic;

using System.Linq;

using System.Text;

using System.Threading.Tasks;

namespace Demos

{

class Student

{

int id;

public int Id

{

get

{

return id;

}

set

{

id = value;

}

}

string name;

public string Name

{

get

{

return name;

}

}

int marks;

public int Marks

{

get

{

return marks;

}

set

{

if (value < 0)

marks = 0;

else

marks = value;

}

}

}

class PropertiesDemo

{

static void Main()

{

Student student = new Student();

student.Id = 10;

Console.WriteLine(student.Id);

// student.Name = "Deepak";

Console.WriteLine("Enter Marks");

student.Marks = Convert.ToSByte(Console.ReadLine());

Console.WriteLine(student.Marks);

}

}

}

-----------------\

class Batch

{

private int id;

public int Id

{

get { return id; }

set { id = value; }

}

private string name;

public string Name

{

get { return name; }

set { name = value; }

}

public int Count { get; private set; }

public int CourseId { get; set; }

}