using System;

using System.Collections.Generic;

using System.Linq;

using System.Text;

using System.Threading.Tasks;

namespace Overloading

{

class Program

{

class A

{

//переменные класса

public int a, b;

//перегрузка конструкторов

public A()

{

Console.WriteLine("Constructor A");

}

public A(int a)

{

Console.WriteLine("Constructor A(1)");

this.a = a;

this.b = 0;

}

public A(int a, int b)

{

Console.WriteLine("Constructor A(2)");

this.a = a;

this.b = b;

}

//диструктор

~A() { }

//перегрузка функций

public int f(int x)

{

return x;

}

public int f(int x, int y)

{

return x + y;

}

public int f(int x, float y)

{

return x + (int)y;

}

//перегрузка операторов

public static A operator +(A a2, A a3)

{

A a = new A();

a.a = a2.a + a3.a;

a.b = a2.b + a3.b;

return a;

}

public static A operator -(A a2, A a3)

{

A a = new A();

a.a = a2.a - a3.a;

a.b = a2.b - a3.b;

return a;

}

public static bool operator <(A a1, A a5)

{

bool q;

if (a1.a < a5.a) return q = true;

else return q = false;

}

public static bool operator >(A a1, A a5)

{

bool q;

if (a1.a > a5.a) return q = true;

else return q = false;

}

//перегрузка операций

public void k(int a, int b) { this.a = a + b; }

public void k(int a) { this.a = a+1; }

}

static void Main()

{

//Console.WriteLine("hi students");

// создание объектов класса A

A a = new A();

Console.WriteLine("obj A was created");

A a1 = new A(1);

Console.WriteLine("obj A(1) was created");

A a2 = new A(3, 2);

Console.WriteLine("obj A(2) was created");

//выполнение перегрузки функций

Console.WriteLine("a.f = {0}, {1}, {2}", a.f(1), a.f(1, 2), a.f(1, (int)1.2)); //1 3 2

Console.WriteLine("a1.f = {0}, {1}, {2}", a1.f(1), a1.f(1, 2), a1.f(1, (int)1.2)); //1 3 2

Console.WriteLine("a2.f = {0}, {1}, {2}", a2.f(1), a2.f(1, 2), a2.f(1, (int)1.2)); //1 3 2

//выполнение перегрузки операторов

// + и -

A a3 = new A(4, 0);

Console.WriteLine("val a and val b of a2 = " + a2.a + " " + a2.b); // 3 2

Console.WriteLine("val a and val b of a3 = " + a3.a + " " + a3.b); // 4 0

A a4 = a2 + a3; // 3+4 2+0

Console.WriteLine("val a and val b of a2 + a3 = " + a4.a + " " + a4.b); //7 2

a4 = a2 - a3; //3-4 2-0

Console.WriteLine("val a and val b of a2 - a3 = " + a4.a + " " + a4.b); //-1 2

//bool

A a5 = new A(5);

Console.WriteLine("obj a5 was created");

bool res = a5 > a1; // a1=1

Console.WriteLine(res); //True

Console.ReadKey();

}

}

}