/////////////////Program1////////////////////

using System;

using System.Collections.Generic;

using System.Linq;

using System.Text;

namespace CSharp120716\_E1

{

class ThreeD

{

int x, y, z;

public ThreeD()

{

x = y = z = 0;

}

public ThreeD(int i, int j, int k)

{

x = i;

y = j;

z = k;

}

//OVERLOAD true

public static bool operator true(ThreeD op)

{

if ((op.x != 0) || (op.y != 0) || (op.z != 0))

return true; //atlest one cordinate is non zero

else

return false;

}

//OVERLOAD false

public static bool operator false(ThreeD op)

{

if ((op.x == 0) && (op.y == 0) && (op.z == 0))

return true; //all cordinate are non zero

else

return false;

}

//Overload unary operator --

public static ThreeD operator --(ThreeD op)

{

ThreeD result = new ThreeD();

result.x = op.x - 1;

result.y = op.y - 1;

result.z = op.z - 1;

return result;

}

//Show x y z coordinates

public void show()

{

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

}

}

class Program

{

static void Main(string[] args)

{

ThreeD a = new ThreeD(5, 6,7);

ThreeD b = new ThreeD(4, 4, 4);

ThreeD c = new ThreeD(0, 0, 0);

Console.Write("Here is a: ");

a.show();

Console.WriteLine();

Console.Write("Here is b: ");

b.show();

Console.WriteLine();

Console.Write("Here is c: ");

c.show();

Console.WriteLine();

if (a)

Console.WriteLine("a is true");

else

Console.WriteLine("a is false");

if (b)

Console.WriteLine("b is true");

else

Console.WriteLine("b is false");

if (c)

Console.WriteLine("c is true");

else

Console.WriteLine("c is false");

Console.WriteLine();

Console.WriteLine("Control a lopp using ThreeD object");

do

{

b.show();

b--;

}while(b);

Console.ReadLine();

}

}

}

/////////////////Program2////////////////////

using System;

using System.Collections.Generic;

using System.Linq;

using System.Text;

namespace CSharp120716\_E2

{

class ThreeD

{

int x, y, z;

public ThreeD()

{

x = y = z = 0;

}

public ThreeD(int i, int j, int k)

{

x = i;

y = j;

z = k;

}

//OVERLOAD |

public static bool operator |(ThreeD op1, ThreeD op2)

{

if ((op1.x != 0) || (op1.y != 0) || (op1.z != 0) |

(op2.x != 0) || (op2.y != 0) || (op2.z != 0))

return true; //atlest one cordinate is non zero

else

return false;

}

//OVERLOAD &

public static bool operator &(ThreeD op1, ThreeD op2)

{

if ((op1.x != 0) && (op1.y != 0) && (op1.z != 0) &

(op2.x != 0) && (op2.y != 0) && (op2.z != 0))

return true; //atlest one cordinate is non zero

else

return false;

}

//OVERLOAD !

public static bool operator !(ThreeD op)

{

if (op.x != 0 || op.y != 0 || op.z != 0)

return false; //atlest one cordinate is non zero

else

return true;

}

//Show x y z coordinates

public void show()

{

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

}

}

class Program

{

static void Main(string[] args)

{

ThreeD a = new ThreeD(5, 6, 7);

ThreeD b = new ThreeD(4, 4, 4);

ThreeD c = new ThreeD(0, 0, 0);

Console.Write("Here is a: ");

a.show();

Console.WriteLine();

Console.Write("Here is b: ");

b.show();

Console.WriteLine();

Console.Write("Here is c: ");

c.show();

Console.WriteLine();

if (!a)

Console.WriteLine("a is false");

if (!b)

Console.WriteLine("b is false");

if (!c)

Console.WriteLine("c is false");

Console.WriteLine();

if (a & b)

Console.WriteLine("a & b is true");

else

Console.WriteLine("a & b is false");

if (a & c)

Console.WriteLine("a & c is true");

else

Console.WriteLine("a & c is false");

if (a | b)

Console.WriteLine("a | b is true");

else

Console.WriteLine("a | b is false");

if (a | c)

Console.WriteLine("a | c is true");

else

Console.WriteLine("a | c is false");

Console.ReadLine();

}

}

}