

=====

**Міністерство освіти і науки України  
Національний технічний університет  
«Дніпровська політехніка»**



**ЗВІТ  
про виконання лабораторних робіт  
з дисципліни  
«Об'єктно-орієнтоване програмування»  
Лабораторна робота № 3**

Виконав:  
студент гр. 121-19-2  
Назаркин С. А.

Прийняв:  
викладач каф.  
Приходченко С.Д.

**Дніпро  
2020**

## Варіант 17

Фігура: восьмикутник.

Код класу CGraphicsObject:

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

namespace LW_3
{
    public abstract class CGraphicsObject
    {
        protected List<List<double>> points;
        protected List<double> point;

        public abstract void show();
    }
}
```

Код класу Cpoint:

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

namespace LW_3
{
    public class CPoint : CGraphicsObject
    {
        public List<double> Point
        {
            get{ return point; }
            set{ point = value;}
        }

        public CPoint()
        {
        }

        ~CPoint()
        {
        }

        public override void show()
        {
            Console.WriteLine("This class is the inheritor of CGraphicsObject. It is point with coordinates: ");
            int point = 1;
            int counter = 0;
            foreach (double coord in Point)
            {
                if (counter % 2 == 0)
                {
                    Console.WriteLine("point " + point + ": ");
                    point += 1;
                }
                Console.Write(coord + ", ");
                counter += 1;
            }
        }
    }
}
```

```
}
```

Код класу Octagon:

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

namespace LW_3
{
    public class Octagon : CPoint
    {
        public List<List<double>> Points
        {
            get{ return points;}
            set{ points = value;}
        }

        public Octagon()
        {
        }

        ~Octagon()
        {
        }

        public override void show()
        {
            Console.WriteLine("This class is the inheritor of CPoint. It is octagon with points:");
            int idx = 0;
            foreach (List<double> point in Points)
            {
                Console.WriteLine "[" + point[idx] + ";" + point[idx + 1] + "]" + "\n");
                idx += 2;
            }
        }
    }
}
```

Код головної програми:

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

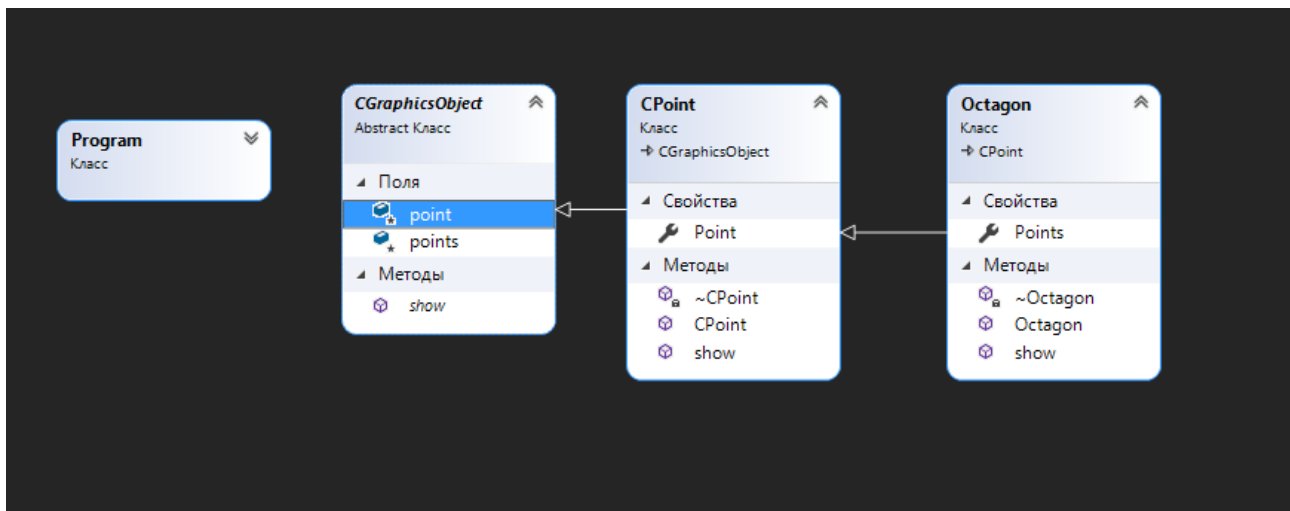
namespace LW_3
{
    class Program
    {
        static void Main(string[] args)
        {
            Octagon figure = new Octagon();
            CPoint t = new CPoint();
            List<double> point = new List<double> ();
            List<List<double>> points = new List<List<double>>();
            for (int p = 0; p < 8; p++)
            {
                Console.WriteLine("Enter x for " + Convert.ToInt32(p + 1) + " coordinate:");
                point.Add(Convert.ToDouble(Console.ReadLine()));
            }
        }
    }
}
```

```

        Console.WriteLine("Enter y for " + Convert.ToInt32(p + 1) + " coordinate:");
        point.Add(Convert.ToDouble(Console.ReadLine()));
        t.Point = point;
        points.Add(t.Point);
    }
    figure.Points = points;
    figure.show();
    t.show();
    Console.ReadKey();
}
}
}

```

Діаграма класів:



D:\VS\_Repos\LW\_3\LW\_3\bin\Debug\LW\_3.exe

```

Enter x for 1 coordinate:10
Enter y for 1 coordinate:2
Enter x for 2 coordinate:4
Enter y for 2 coordinate:5
Enter x for 3 coordinate:12
Enter y for 3 coordinate:3
Enter x for 4 coordinate:5
Enter y for 4 coordinate:19
Enter x for 5 coordinate:23
Enter y for 5 coordinate:4
Enter x for 6 coordinate:1
Enter y for 6 coordinate:36
Enter x for 7 coordinate:84
Enter y for 7 coordinate:23
Enter x for 8 coordinate:42
Enter y for 8 coordinate:2
This class is the inheritor of CPoint. It is octagon with points: [10;2]
[4;5]
[12;3]
[5;19]
[23;4]
[1;36]
[84;23]
[42;2]
This class is the inheritor of CGraphicsObject. It is point with coordinates: point 1: 10, 2, point 2: 4, 5, point 3: 12
, 3, point 4: 5, 19, point 5: 23, 4, point 6: 1, 36, point 7: 84, 23, point 8: 42, 2,

```