

Базовые компоненты интернет технологий.  
Отчёт по лабораторной работе №1.

Белкина Екатерина  
Группа ИУ5-31Б  
МГТУ имени Н.Э. Баумана

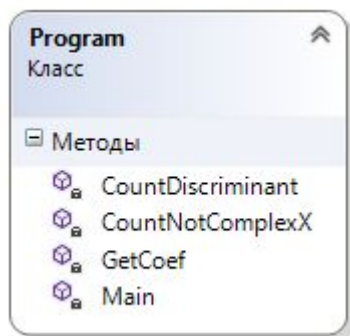
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## Описание задания

Разработать программу для решения квадратного уравнения.

1. Программа должна быть разработана в виде консольного приложения на языке C#.
2. Программа осуществляет ввод с клавиатуры коэффициентов А, В, С, вычисляет дискриминант и корни уравнения (в зависимости от дискриминанта).
3. Если коэффициент А, В, С введен некорректно, то необходимо проигнорировать некорректное значение и ввести коэффициент повторно.

## Диаграмма классов



## Текст программы

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

namespace ConsoleApp1
{
    class Program
    {
        static void Main(string[] args)
        {
            Console.WriteLine("Give a coefficient A");
            double a = GetCoef();
            if (a == 0)
            {
```

```

        Console.WriteLine("It is not a square equation");
        Console.Read();
        return;
    }
    else
        Console.WriteLine("Your A is " + a);

    Console.WriteLine("Give a coefficient B");
    double b = GetCoef();
    Console.WriteLine("Your B is " + b);

    Console.WriteLine("Give a coefficient C");
    double c = GetCoef();
    Console.WriteLine("Your C is " + c);

    Console.WriteLine();
    double D = CountDiscriminant(a, b, c);
    Console.WriteLine("Discriminant is " + D);

    double[] X = new double[2];
    if (D >= 0)
    {
        X = CountNotComplexX(b, D);
        Console.WriteLine();
        Console.WriteLine("Counted X1 is " + X[0]);
        Console.WriteLine("Counted X2 is " + X[1]);
    }
    else
    {
        Console.WriteLine();
        Console.WriteLine("Counted X1 is " + -b / 2 + -Math.Sqrt(-D) / 2 + "i");
        Console.WriteLine("Counted X2 is " + -b / 2 + "+" + Math.Sqrt(-D) / 2 + "i");
    }

    Console.Read();

```

```

    }

    static double GetCoef()
    {
        double coef;
        try
        {
            coef = Convert.ToDouble(Console.ReadLine());
            return coef;
        }

        catch (FormatException)
        {
            Console.WriteLine("There is a format exception. Try again");
            return GetCoef();
        }
    }

    static double CountDiscriminant(double a, double b, double c)
    {
        return b * b - 4 * a * c;
    }

    static double[] CountNotComplexX(double b, double d)
    {
        double[] X = new double[2];
        X[0] = -b / 2 - Math.Sqrt(d) / 2;
        X[1] = -b / 2 + Math.Sqrt(d) / 2;
        return X;
    }
}

```

## Примеры выполнения программы

Give a coefficient A 1 Your A is 1 Give a coefficient B 2 Your B is 2 Give a coefficient C 1 Your C is 1 Discriminant is 0 Counted X1 is -1 Counted X2 is -1	Give a coefficient A er There is a format exception. Try again # There is a format exception. Try again >> There is a format exception. Try again 2 Your A is 2 Give a coefficient B 12 Your B is 12 Give a coefficient C 1 Your C is 1 Discriminant is 136 Counted X1 is -11,8309518948453 Counted X2 is -0,169048105154699
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Give a coefficient A 2 Your A is 2 Give a coefficient B fgg There is a format exception. Try again 11 Your B is 11 Give a coefficient C ty? There is a format exception. Try again 2.1 There is a format exception. Try again 2.1 Your C is 2,1 Discriminant is 104,2 Counted X1 is -10,6039200620699 Counted X2 is -0,396079937930062	Give a coefficient A 2 Your A is 2 Give a coefficient B 3 Your B is 3 Give a coefficient C 12 Your C is 12 Discriminant is -87 Counted X1 is -1,5-4,66368952654441i Counted X2 is -1,5+4,66368952654441i
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Give a coefficient A 0 It is not a square equation
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