

Reflector

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using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.IO;
using System.Linq;
using System.Reflection;
using System.Runtime.Remoting.Contexts;
using System.Security.Cryptography;
using System.Text;
using System.Threading.Tasks;
using static System.Net.Mime.MediaTypeNames;

namespace OOP11
{
    static class Reflector
    {
        delegate void ResearchedClass<T>();
        public static void ResearchClass<T>(T obj)
        {
            var type = obj.GetType();
            var props = type.GetProperties();

            using (StreamWriter writer = new StreamWriter(type.Name + ".txt", false))
            {
                writer.WriteLineAsync(props[0].DeclaringType.Assembly.ToString());

                writer.WriteLineAsync("-----Конструкторы-----");
                foreach (var constructor in type.GetConstructors())
                {
                    writer.WriteLineAsync(constructor.ToString());
                }

                writer.WriteLineAsync("-----Методы-----");
                foreach (var method in type.GetMethods())
                {
                    writer.WriteLineAsync(method.ToString());
                }

                writer.WriteLineAsync("-----Поля-----");
                foreach (var field in type.GetFields())
                {
                    writer.WriteLineAsync(field.ToString());
                }
                writer.WriteLineAsync("-----Свойства-----");
                foreach (var field in type.GetProperties())
                {
                    writer.WriteLineAsync(field.ToString());
                }
                writer.WriteLineAsync("-----Интерфейсы-----");
                foreach (var interface_ in type.GetInterfaces())
                {
                    writer.WriteLineAsync(interface_.ToString());
                }
                writer.WriteLineAsync("-----Методы 2-----");
                var methods = type.GetMethods();
                foreach (var method in methods)
                {
                    foreach (var param in method.GetParameters())
```

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        {
            if (param.Name.GetType() == typeof(System.String))
                writer.WriteLineAsync(method.ToString());
        }
    }
}

public static void Invoke(object obj, string className, string methodName, object[] params_)
{
    Type t = Type.GetType(className);
    var handler = t.GetMethod(methodName);
    handler.Invoke(obj, new object[] { });
}

public static T Create<T>() where T : new()
{
    T ob = new T();
    return ob;
}
}

public class Person
{
    public string Name { get; }
    public int age;
    public Person(string name) => Name = name;
    public Person(int name){}
    public Person()
    {
        Name = "Ivan";
        age = 18;
    }

    public void Walk()
    {
        Console.WriteLine("Я сплю");
    }

    public void Eat(string food) {}
    public void Sleep(int hour) {}
}

internal class Program
{
    public static void Main(string[] args)
    {
        Person person = new Person("Ivan");
        Reflector.ResearchClass(person);
        Reflector.Create<Person>();
        string text;
        using (StreamReader reader = new StreamReader("param.txt"))
        {
            text = reader.ReadToEnd();
            Console.WriteLine(text);
        }
        string[] words = text.Split(new char[] { ' ' }, StringSplitOptions.RemoveEmptyEntries);
        Reflector.Invoke(person, words[0], words[1], params_: null);
        Console.ReadLine();
    }
}
}

```