

## ECOTE – project: XML to C#

Write a program which reads XML file, generates code of C# classes according to the XML file structure and code creating objects of those classes with attribute values read from the XML file. Resulting C# code should contain definitions of all classes distinguished from the input XML, including methods (with empty bodies). Every generated C# class has to contain properties for every field, constructor with arguments and overrides of all methods inherited from Object class (Equals, Finalize, GetHashCode, GetType, MemberwiseClone, ReferenceEquals, ToString). Each class should be placed in separate C# file. Code creating objects of the classes can be placed, for example, in Main method. For example, for the following input:

```
<root>
  <newman Name="John" Surname="Newman" BirthDate="1990-01-01">
    <mother>
      <newman_mother Name="Ann" Surname="Brown" BirthDate="1970-
02-02"/>
    </mother>
    <father>
      <newman_father Name="Joseph" Surname="Newman"
BirthDate="1967-12-24"/>
    </father>
  </newman>
  <novak Name="Matt" Surname="Novak" BirthDate="2005-11-16"/>
  <cats>
    <tom Name="Tom" Companion="Jerry"/>
    <garfield Name="Garfield" Companion="Odie"/>
  </cats>
</root>
```

the output could consist of 3 files (*Class1.cs*, *Class2.cs*, *Main.cs*) and look like:

*Class1.cs*

```
class Class1
{
    public string Name {get; set;}
    public string Surname {get; set;}
    public string BirthDate {get; set;}
    public Class1 Mother {get; set;}
    public Class1 Father {get; set;}
    public Class1(string Name, string Surname, string BirthDate, Class1
Mother, Class1 Father)
    {
        //TODO: implement this method
    }
    //overridden methods inherited from Object class
    //(omitted for brevity)
};
```

*Class2.cs*

```
class Class2
```

```

{
    public string Name {get; set;}
    public string Companion {get; set;}
    public Class2(string Name, string Companion);
    //overridden methods inherited from Object class
    //(omitted for brevity)
}

```

contents of Main method defined in *Main.cs*:

```

Class1 newman_mother = new Class1("Ann", "Brown", "1970-02-02", null, null);
Class1 newman_father = new Class1("Joseph", "Newman", "1967-12-24", null,
null);
Class1 newman = new Class1("John", "Newman", "1990-01-01", newman_mother,
newman_father);
Class1 novak = new Class1("Matt", "Novak", "2005-11-16", null, null);
Class2 tom = new Class2("Tom", "Jerry");
Class2 garfield = new Class2("Garfield", "Odie");
List<Class2> cats;
cats.Add(tom);
cats.Add(garfield);

```