# Similar Object Comparer

Create a program which given two object instances of the same type will perform a deep comparison and check if the two objects are “similar”. Two objects are said to be similar -

- The values of corresponding value type properties in the two objects are equal.
- The values of corresponding reference type fields in the two objects are similar.

```
var a = new Student
{
  Name = "John", Id = 100,
  Marks = new [] {80,90,100}
};

var b = new Student
{
  Name = "John", Id = 100,
  Marks = new [] {80,90,100}
};

var c = new Student
{
  Name = "John", Id = 101,
  Marks = new [] {80,90,100}
};

var d = new Student
{
  Name = "John", Id = 100,
  Marks = new [] {100,90,80}
};
```

**Example:**

In case of the given snippet -

1.**a** is similar to **b** since all fields have the same value.

2.**a** is not similar to **c** since the values of Id do not match.

3.**a** is similar to **d** since all fields are the same despite the fact that the values of the Marks field do not follow the same order.

**The following conditions can be assumed:**

•All properties will have both getters and setters.

•The objects can be arbitrarily nested.

•Use of standard collections like Lists, arrays and Dictionary<K,V> are allowed.

•Order of collections does not need to be maintained for similarity.

•References inside the object structure may repeat.

•Your implementation should support passing any arbitrary type.

**Evaluation criteria:**

Your solution will be evaluated on the basis of the following:

- Design and object modelling
- Solution structure
- Test cases
- Overall solution approach
- Readability and maintainability of code

The solution should assume valid inputs at all times and does not need to include unnecessary validations trying to prevent bad input data.