

**Worksheet 5 – Hash Algorithms**

**Hash Algorithms @.NET**

**Covered topics:**

- Concept of Hash Algorithms
- Hash Algorithms in .Net

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## 1. Hash Algorithms

The next exercise shows how to use Hash Algorithms in .NET.

### Exercise

1. Download the project “ei.si-worksheet5-ex1.1” and use the existing *Form* components to:

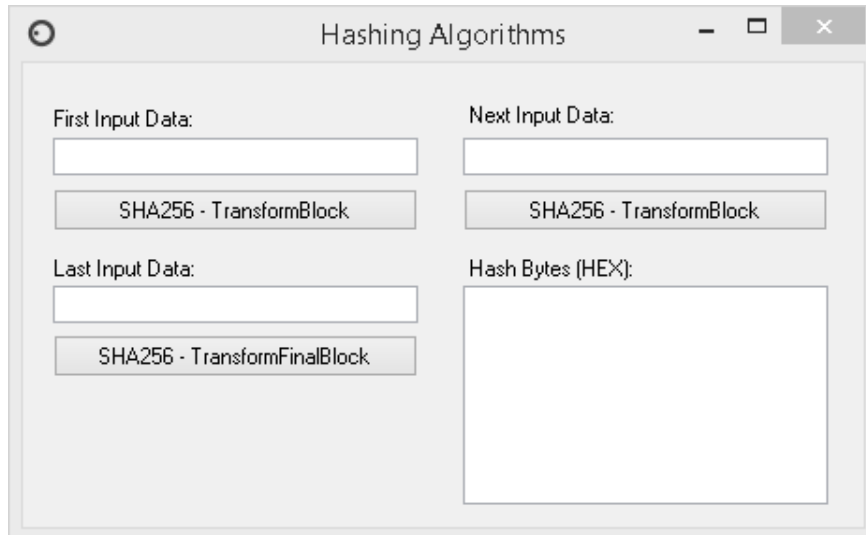
The screenshot shows a Windows application window titled "Hashing Algorithms". Inside the window, there is a text input field at the top labeled "Data to compute Hash". Below this field are four buttons arranged horizontally: "MD5 Compute Hash", "SHA1 Compute Hash", "SHA256 Compute Hash", and "SHA512 Compute Hash". At the bottom of the window is another text input field labeled "Hash Bytes (HEX)".

- 1) Calculate the *hash value* using the MD5 algorithm;
- 2) Calculate the *hash value* using the SHA1 algorithm;
- 3) Calculate the *hash value* using the SHA256 algorithm;
- 4) Calculate the *hash value* using the SHA512 algorithm.

## 2. Extra Class

### Exercises

1. Download the project “ei.si-worksheet5-ex2.1” and use the existing form components, to achieve the following objectives:



- Calculate the *hash value* using the SHA256 algorithm;
- Using the Hash property;
- You must execute the sequence present on the form [1), 2), 3)];
- Use the methods: *TransformBlock()* and *TransformFinalBlock()*;
- Only display the result in the textbox after the final block has been processed.