**Lab Task 02**



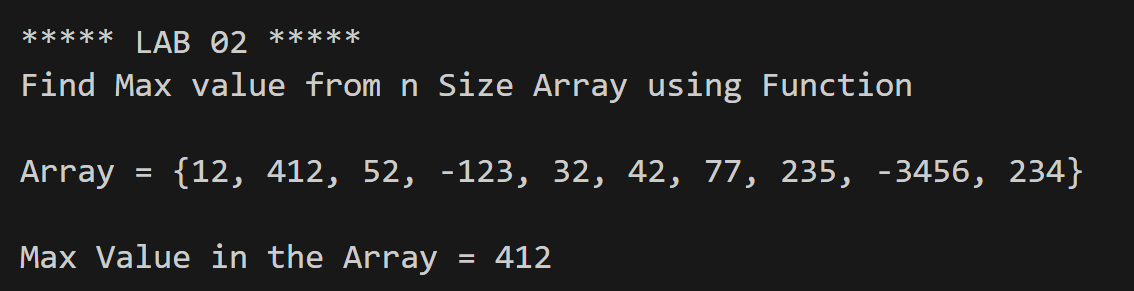
**Superior University Gold Campus**

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| **Roll No** | **SU92-BSSEM-S24-029 (Section – 3A)** |
| **Subject** | **Data Structures and Algorithms (Lab)** |
| **Class** | **BS – Software Engineering** |

# **Lab 02: Big O Notation (Loops and Arrays)**

* The code finds the maximum value in an array by iterating through each element once. It starts by assuming the first element is the maximum, then compares it with every subsequent element. If a larger value is found, it updates the maximum.
* This process ensures all elements are checked, making the time complexity **O(n)** since it scales linearly with the array size.
* The algorithm examines each element exactly once, making it linear in terms of the input size (n). Hence, its time complexity is **O(n).**
* The logic is efficient and straightforward for finding the maximum value in a single pass.

**Outputs:**

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