**1.5** Write a program FOR THE BELOW TEST CASES with least time complexity Test Cases: -

Input: {1, 2, 3, 4, 5} Expected Output: 5

Input: {7, 7, 7, 7, 7} Expected Output: 7

Input: {-10, 2, 3, -4, 5} Expected Output: 5

**AIM**:

To find the maximum element from a given integer array efficiently.

**ALGORITHM:**

1. Initialize max\_val = nums[0].

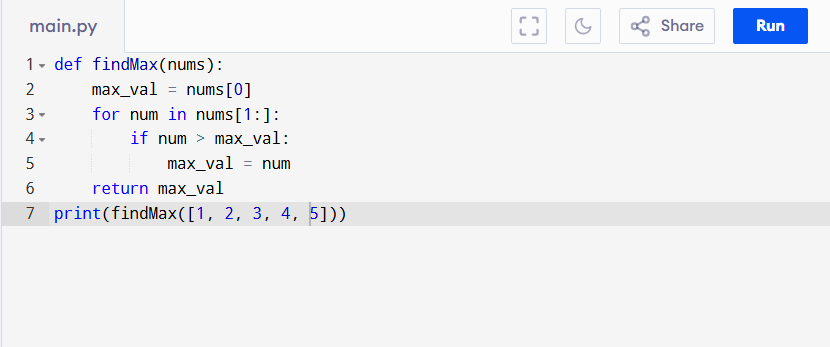
2. Traverse the array from index 1 to n-1.

3. For each element, compare with max\_val:

• If current element > max\_val, update max\_val.

4. Return max\_val as the result.

**PROGRAM:**



Input:

{1, 2, 3, 4, 5}

Output:

A screenshot of a computer

AI-generated content may be incorrect.

**RESULT:**

Thus the program to find the maximum element in array is successfully executed, and the output is verified.

**PERFORMANCE ANALYSIS:**

• Time Complexity: O(n) (must check each element once).

• Space Complexity: O(1) (only one variable used for max)