1. 129. Write a program FOR THE BELOW TEST CASES with least time complexity
   Test Cases: -
   1) Input: {1, 2, 3, 4, 5} Expected Output: 5
   2) Input: {7, 7, 7, 7, 7} Expected Output: 7
   3) Input: {-10, 2, 3, -4, 5} Expected Output: 5

PROGRAM:-

```
def find_max(nums):
    if not nums:
        return None
    max_num = nums[0]
    for num in nums[1:]:
        if num > max_num:
            max_num = num
    return max_num


# Test Case 1
input1 = [1, 2, 3, 4, 5]
output1 = find_max(input1)
print(f"Input: {input1}\nExpected Output: 5\nOutput: {output1}\n")


# Test Case 2
input2 = [7, 7, 7, 7, 7]
output2 = find_max(input2)
print(f"Input: {input2}\nExpected Output: 7\nOutput: {output2}\n")


# Test Case 3
input3 = [-10, 2, 3, -4, 5]
output3 = find_max(input3)
```

print(f"Input: {input3}\nExpected Output: 5\nOutput: {output3}\n")

OUTPUT:-

```
Input: [1, 2, 3, 4, 5]
Expected Output: 5
Output: 5

Input: [7, 7, 7, 7, 7]
Expected Output: 7
Output: 7

Input: [-10, 2, 3, -4, 5]
Expected Output: 5
Output: 5


=== Code Execution Successful ===
```

TIME COMPLEXITY:-O(n)