

HATFD1025

Find the Second Largest Element in an Array

Write a program to find the second-largest element in an array of integers without using any sorting algorithms or built-in array functions.

Instructions: Traverse the array manually to find both the largest and second-largest elements

Code:

```
def find_second_largest(arr):
    if len(arr) < 2:
        return "Array must contain at least two elements."

    largest = second_largest = float('-inf')

    for num in arr:
        if num > largest:
            second_largest = largest
            largest = num
        elif num > second_largest and num != largest:
            second_largest = num

    if second_largest == float('-inf'):
        return "There is no second largest element (all elements are equal)."

    return second_largest

# Example usage
arr = [12, 35, 100, 10, 34, 36, 56]
result = find_second_largest(arr)
print("The second largest element is:", result)
```