9 ) Write a C program to search a number using Binary Search method

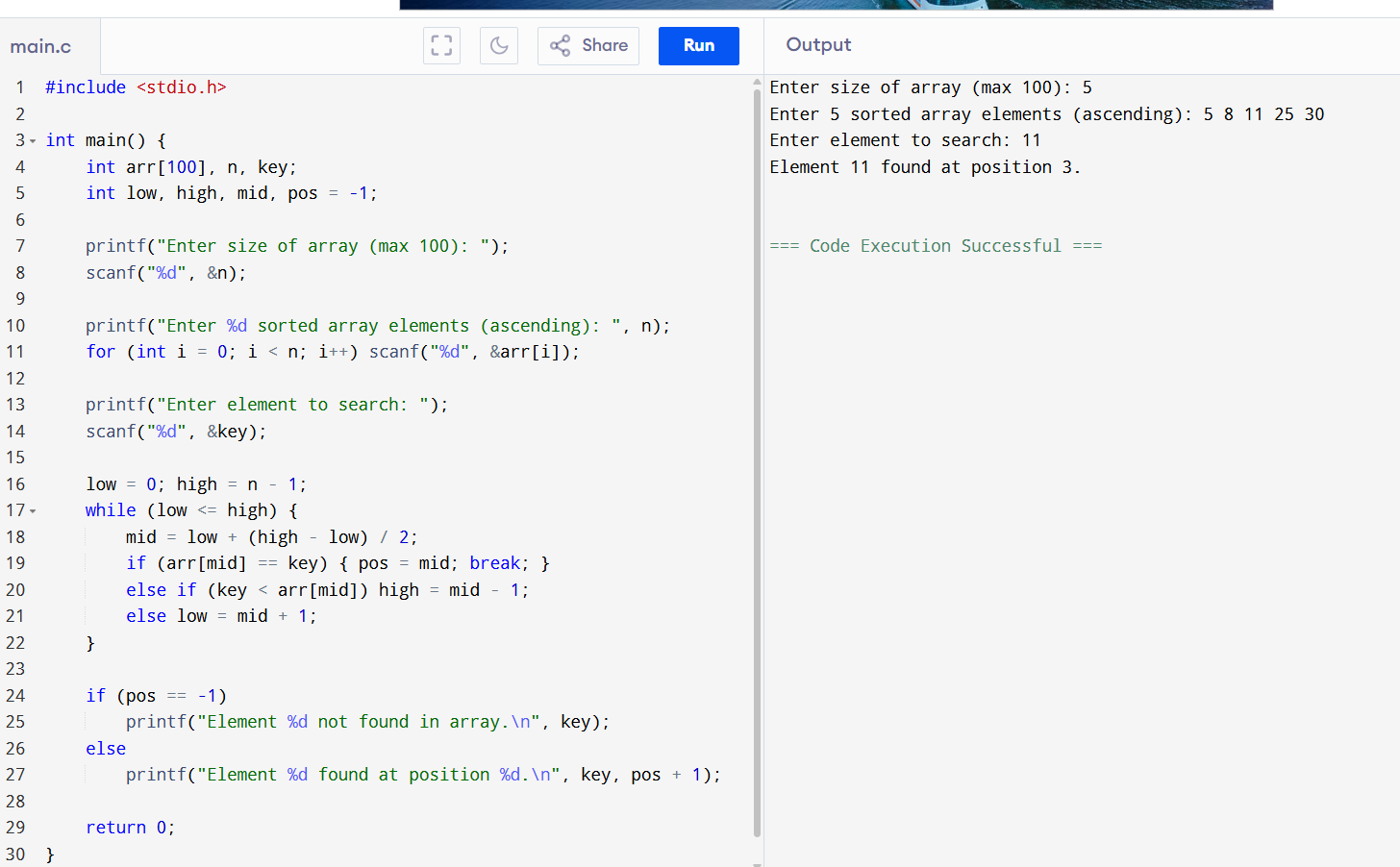
**Aim**

To write a C program that searches for a given number in a **sorted** array using the **Binary Search** method.

**Algorithm (Binary Search)**

1. Start.
2. Read the size of the array n and the **sorted** array elements arr[0..n-1]. (Binary search requires the array to be sorted.)
3. Read the search element key.
4. Initialize low = 0 and high = n - 1.
5. While low <= high:
   * Compute mid = low + (high - low) / 2.
   * If arr[mid] == key, element found at mid → stop.
   * Else if key < arr[mid], set high = mid - 1.
   * Else set low = mid + 1.
6. If loop ends without finding key, report "not found."
7. Stop.

**PROGRAM**

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