82. BINARY SEARCH

PROGRAM:

```
def binary_search(arr, target):
    low, high = 0, len(arr) - 1
    while low <= high:
        mid = (low + high) // 2
        if arr[mid] == target:
            return mid
        elif arr[mid] < target:
            low = mid + 1
        else:
            high = mid - 1
    return -1

# Example
arr = [2, 4, 6, 8, 10, 12, 14, 16]
target = 10
result = binary_search(arr, target)
if result != -1:
    print(f"Element found at index {result}.")
else:
    print("Element not found.")
```

OUTPUT:

```
Element found at index 4.

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

TME COMPLEXITY:O(log n)