EXPERIMENT-9

TO FIND NUMBER X IN SORTED ARRAY USING BINARY SEARCH AND ANALYZE TIME COMPLEXITY

PROGRAM:

```
arr = [3, 4, 6, -9, 10, 8, 9, 30]
key = 10
arr.sort()
low, high = 0, len(arr) - 1
found = False
while low <= high:
    mid = (low + high) // 2
    if arr[mid] == key:
        print(f"Element {key} is found at position {mid + 1}")
        found = True
        break
    elif arr[mid] < key:
        low = mid + 1
    else:
        high = mid - 1
if not found:
    print(f"Element {key} is not found")

```

OUTPUT:

```
Element 10 is found at position 7

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