EXP 09 BINARY SEARCH

Program

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#include <stdio.h>
int binarySearch(int arr[], int size, int target) {
    int low = 0, high = size - 1;
    while (low <= high) {
        int mid = (low + high) / 2;
        if (arr[mid] == target)
            return mid;
        else if (arr[mid] < target)
            low = mid + 1;
        else
            high = mid - 1;
    }
    return -1;
}
int main() {
    int arr[100], n, i, target, result;
    printf("Enter the number of elements: ");
    scanf("%d", &n);
    printf("Enter %d sorted elements:\n", n);
    for (i = 0; i < n; i++) {
        scanf("%d", &arr[i]);
    }
    printf("Enter the number to search: ");
    scanf("%d", &target);
    result = binarySearch(arr, n, target);
    if (result != -1)
        printf("Element found at position %d.\n", result);
```

```
    else
        printf("Element not found in the array.\n");
    return 0;
}
```

Output