int binarySearch(int arr[], int size, int target) {

int left = 0;

int right = size - 1;

while (left <= right) {

int mid = left + (right - left) / 2;

if (arr[mid] == target) {

return mid; // Target found, return index

} else if (arr[mid] < target) {

left = mid + 1; // Search the right half

} else {

right = mid - 1; // Search the left half

}

}

return -1; // Target not found

}

int main() {

int arr[] = { 2, 5, 8, 12, 16, 23, 38, 56, 72, 91 };

int size = sizeof(arr) / sizeof(arr[0]);

int target;

printf("Enter a number to search: ");

scanf("%d", &target);

int index = binarySearch(arr, size, target);

if (index != -1) {

printf("Number %d found at index %d.\n", target, index);

} else {

printf("Number %d not found in the array.\n", target);

}

return 0;

}

OUTPUT:

Enter a number to search: 3

Number 3 not found in the array.