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

```
#include <stdio.h>

int main() {
   int arr[100], n, key, low, high, mid, i;

   printf("Enter number of elements: ");
   scanf("%d", &n);

   printf("Enter %d sorted elements (in ascending order):\n", n);
   for(i = 0; i < n; i++) {
      scanf("%d", &arr[i]);
   }

   printf("Enter number to search: ");
   scanf("%d", &key);

   low = 0;
   high = n - 1;

   while(low <= high) {
      mid = (low + high) / 2;

      if(arr[mid] == key) {
         printf("Element %d found at position %d.\n", key, mid + 1);
         return 0;
      } else if(arr[mid] < key) {
         low = mid + 1;
```

```
    } else {
        high = mid - 1;
    }
  }

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

  return 0;
}
```

OUTPUT