

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);
```

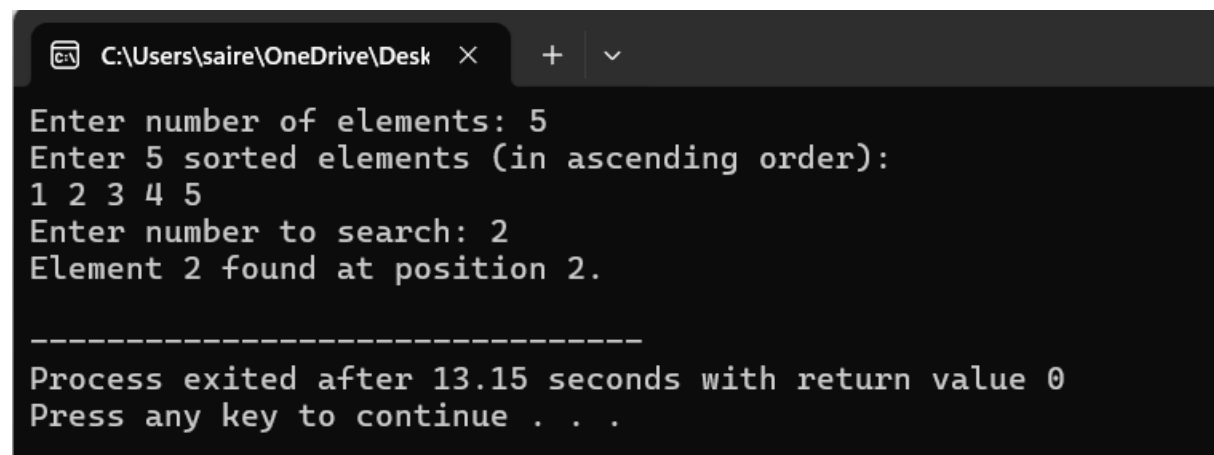
```
            return 0;
```

```
        } 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



The screenshot shows a Windows command prompt window with a single tab titled "C:\Users\saire\OneDrive\Desk". The window has a dark background and white text. The user has entered the following commands and received the following output:

```
Enter number of elements: 5  
Enter 5 sorted elements (in ascending order):  
1 2 3 4 5  
Enter number to search: 2  
Element 2 found at position 2.  
  
-----  
Process exited after 13.15 seconds with return value 0  
Press any key to continue . . .
```