

EXPERIMENT 10:

LINEAR SEARCH IN ARRAY

CODE:

```
#include <stdio.h>
```

```
int main() {
```

```
    int arr[100], n, i, key, found = 0;
```

```
    printf("Enter number of elements: ");
```

```
    scanf("%d", &n);
```

```
    // Input array elements
```

```
    printf("Enter %d elements:\n", n);
```

```
    for(i = 0; i < n; i++) {
```

```
        scanf("%d", &arr[i]);
```

```
    }
```

```
    printf("Enter the element to search: ");
```

```
    scanf("%d", &key);
```

```
    for(i = 0; i < n; i++) {
```

```
        if(arr[i] == key) {
```

```
            printf("Element %d found at position %d\n", key, i + 1);
```

```
            found = 1;
```

```
            break;
```

```
        }
```

```
    }
```

```
    if(!found) {
```

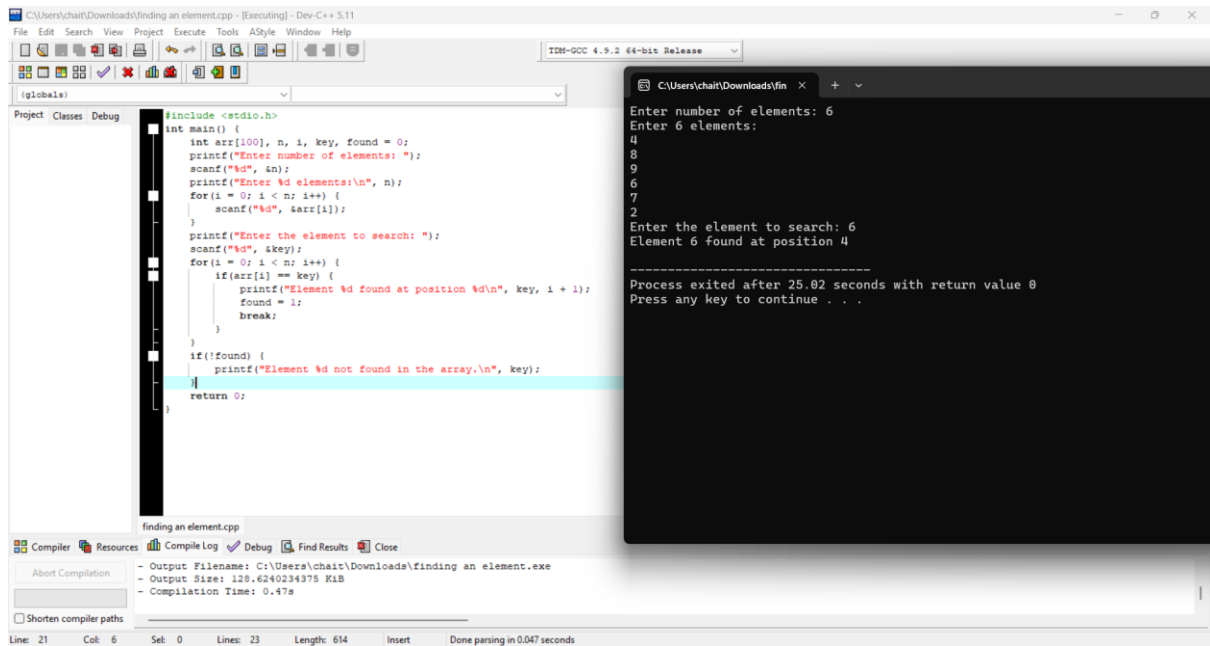
```
printf("Element %d not found in the array.\n", key);
```

```
}
```

```
return 0;
```

```
}
```

OUTPUT:



The screenshot displays a C++ IDE with the source code for a program that finds an element in an array. The code is as follows:

```
#include <stdio.h>

int main() {
    int arr[100], n, i, key, found = 0;
    printf("Enter number of elements: ");
    scanf("%d", &n);
    printf("Enter %d elements:\n", n);
    for(i = 0; i < n; i++) {
        scanf("%d", &arr[i]);
    }
    printf("Enter the element to search: ");
    scanf("%d", &key);
    for(i = 0; i < n; i++) {
        if(arr[i] == key) {
            printf("Element %d found at position %d\n", key, i + 1);
            found = 1;
            break;
        }
    }
    if(!found) {
        printf("Element %d not found in the array.\n", key);
    }
    return 0;
}
```

The output window shows the program's execution:

```
Enter number of elements: 6
Enter 6 elements:
4
8
9
6
7
2
Enter the element to search: 6
Element 6 found at position 4

-----
Process exited after 25.02 seconds with return value 0
Press any key to continue . . .
```

The IDE interface includes a menu bar (File, Edit, Search, View, Project, Execute, Tools, AStyle, Window, Help), a toolbar, a project explorer, a compiler output window showing successful compilation, and a status bar at the bottom indicating the current line and column.