

DATA STRUCTURE LAB

ASSIGNMENT NO 1

NAME: M.MOIZ

REG.NO:078

Q1.

```
#include <iostream>
```

```
using namespace std;
```

```
int main() {
```

```
    cout << "Name: Moiz\nReg No: 078\nSection: B\n\n";
```

```
    string items[20];
```

```
    int count = 78 % 5; // 78 % 5 = 3
```

```
    cout << "Enter " << count << " items:\n";
```

```
    for (int i = 0; i < count; i++) {
```

```
        cout << "Item " << i+1 << ": ";
```

```
        cin >> items[i];
```

```
    }
```

```
    cout << "\nShopping List:\n";
```

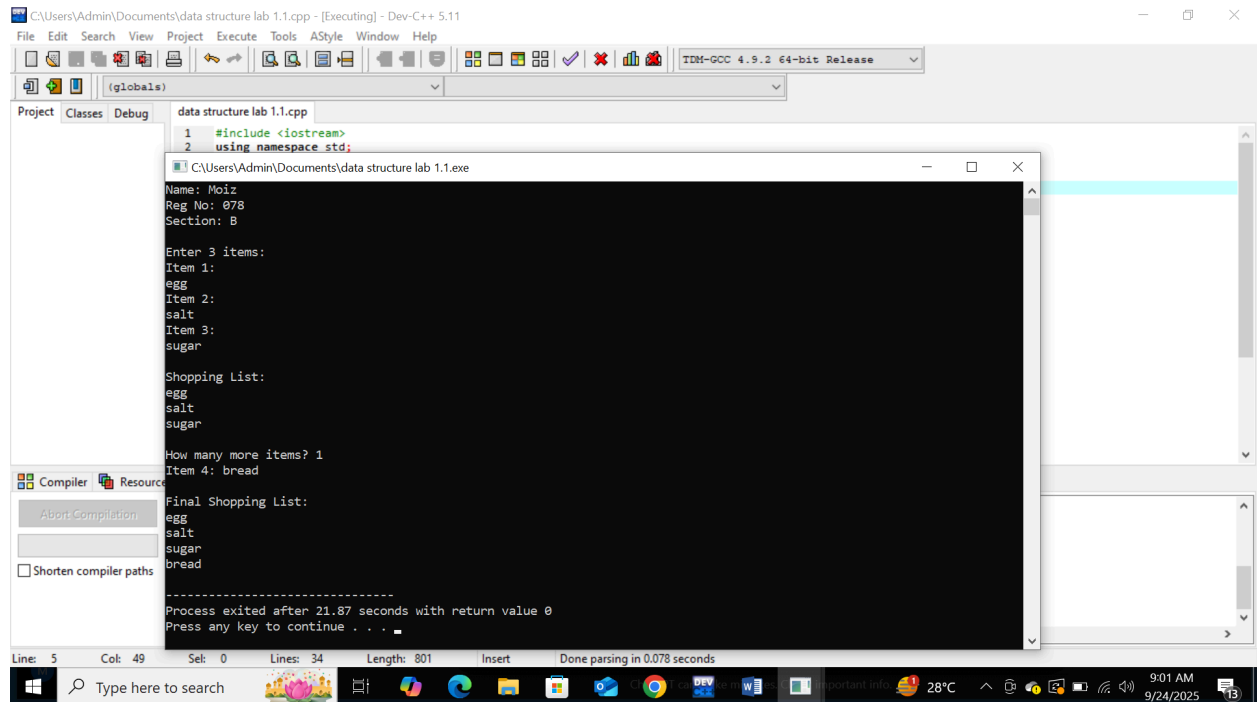
```
    for (int i = 0; i < count; i++)
```

```
        cout << items[i] << endl;
```

```
int more;
cout << "\nHow many more items? ";
cin >> more;
for (int i = 0; i < more; i++) {
    cout << "Item " << count + 1 << ": ";
    cin >> items[count];
    count++;
}

cout << "\nFinal Shopping List:\n";
for (int i = 0; i < count; i++)
    cout << items[i] << endl;

return 0;
}
```



Q2.

```
#include <iostream>
```

```
using namespace std;
```

```
int main() {
```

```
    cout << "Name: Moiz\nReg No: 078\nSection: B\n\n";
```

```
    string students[20];
```

```
    int n = 8 + 3; // last digit + 3 = 11
```

```
    cout << "Enter " << n << " student names:\n";
```

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

```
        cout << "Student " << i+1 << ": ";
```

```
        cin >> students[i];
```

```
}
```

```
cout << "\nQueue:\n";
```

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

```
    cout << students[i] << " ";
```

```
cout << "\n\nRemoving first student...\n";
```

```
cout << "\nUpdated Queue:\n";
```

```
for (int i = 1; i < n; i++) // start from second student
```

```
    cout << students[i] << " ";
```

```
return 0;
```

```
}
```

```
C:\Users\Admin\Documents\data structure lab 1.1.exe
Name: Moiz
Reg No: 078
Section: B

Enter 11 student names:
Student 1:
moiz
Student 2:
ali
Student 3:
sohail
Student 4:
moiz
Student 5:
umair
Student 6:
saad
Student 7:
adil
Student 8:
tariq
Student 9:
usman
Student 10:
tariq
Student 11:
tariq

Queue:
moiz ali sohail moiz umair saad adil tariq usman tariq tariq

Removing first student...

Updated Queue:
ali sohail moiz umair saad adil tariq usman tariq tariq
-----
Process exited after 57.92 seconds with return value 0
Press any key to continue . . .
```

Q3.

```
#include <iostream>
```

```
using namespace std;
```

```
int main() {
```

```
    cout << "Name: Moiz\nReg No: 078\nSection: B\n\n";
```

```
    string students[20];
```

```
    int m = (8 % 4) + 4; // = 8
```

```
    cout << "Enter " << m << " student names:\n";
```

```
    for (int i = 0; i < m; i++) {
```

```
        cout << "Student " << i+1 << ": ";
```

```

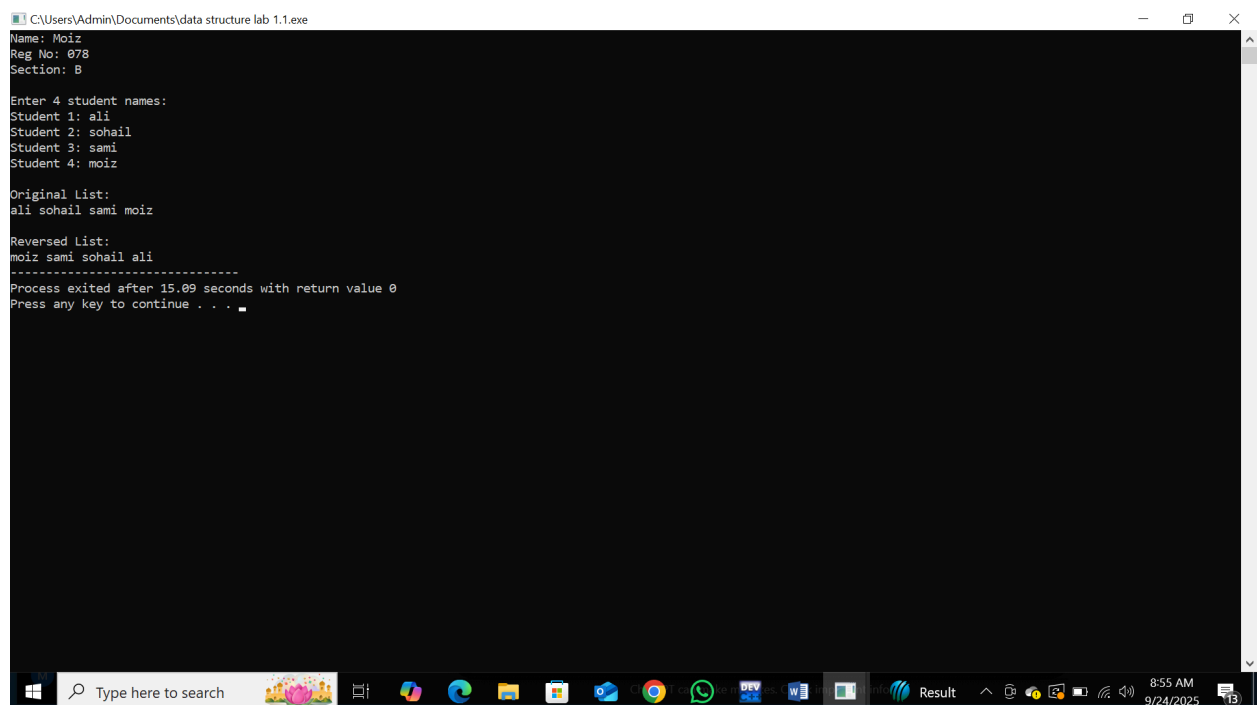
        cin >> students[i];
    }

    cout << "\nOriginal List:\n";
    for (int i = 0; i < m; i++)
        cout << students[i] << " ";

    cout << "\n\nReversed List:\n";
    for (int i = m-1; i >= 0; i--)
        cout << students[i] << " ";

    return 0;
}

```



```

C:\Users\Admin\Documents\data structure lab 1.1.exe
Name: Moiz
Reg No: 078
Section: B

Enter 4 student names:
Student 1: ali
Student 2: sohail
Student 3: sami
Student 4: moiz

Original List:
ali sohail sami moiz

Reversed List:
moiz sami sohail ali
-----
Process exited after 15.09 seconds with return value 0
Press any key to continue . . .

```