

```
C:\Users\avina\Desktop\Practical\DA\Qn39.cpp - [Executing] - Dev-C++ 5.11
File Edit Search View Project Execute Tools AStyle Window Help
(globals)
Qn35.cpp Qn36.cpp Qn37.cpp Qn38.cpp Qn39.cpp Qn40.cpp
15 printf("Enter the number of elements in the array: ");
16 scanf("%d", &size);
17 // Input: elements of the array
18 printf("Enter the elements of the array:\n");
19 for (int i = 0; i < size; i++) {
20     scanf("%d", &arr[i]);
21 }
22 // Input: target element to search for
23 printf("Enter the element to search for: ");
24 scanf("%d", &target);
25 // Perform Linear search
26 result = linearSearch(arr, size, target);
27 // Output the result
28 if (result != -1) {
29     printf("Element %d found at index %d.\n", target, result);
30 } else {
31     printf("Element %d not found in the array.\n", target);
32 }
33 return 0;
34 }
35

Compiler Resources Compile Log Debug Find Results Close
Processing C++ source file...
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- C++ Compiler: C:\Program Files (x86)\Dev-Cpp\MinGW64\bin\g++.exe
- Command: g++.exe "C:\Users\avina\Desktop\Practical\DA\Qn39.cpp" -o "C:\Users\avina\Desktop\Practical\DA\Qn39.exe"
Compilation results...
-----
- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\avina\Desktop\Practical\DA\Qn39.exe
- Output Size: 129.30859375 KiB
- Compilation Time: 0.31s
Line: 35 Col: 1 Sel: 0 Lines: 35 Length: 989 Insert Done parsing in 0.015 seconds
```

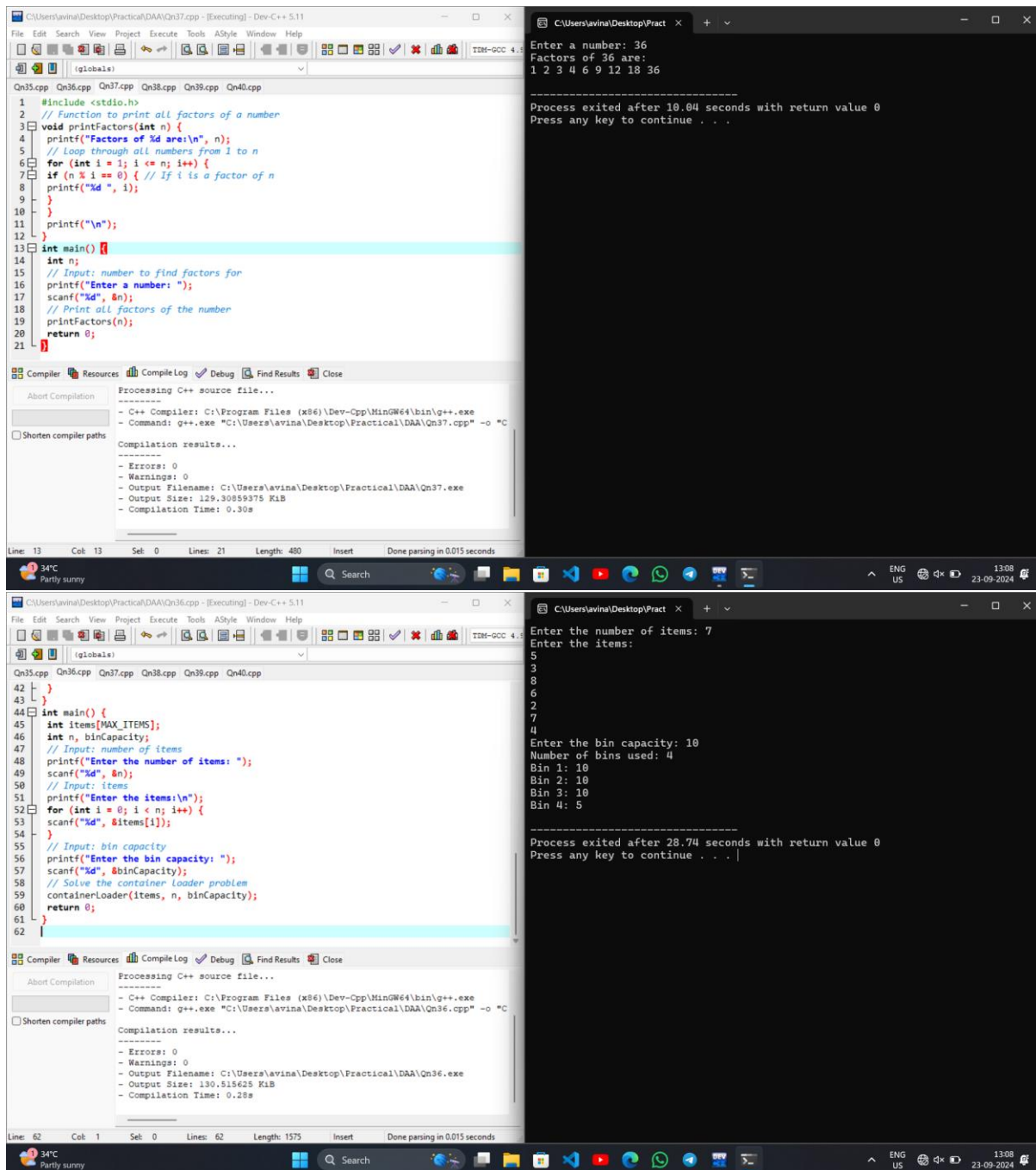
```
C:\Users\avina\Desktop\Pract x + v
Enter the number of elements in the array: 5
Enter the elements of the array:
100 20 30 40 50
Enter the element to search for: 30
Element 30 found at index 2.

-----
Process exited after 45.51 seconds with return value 0
Press any key to continue . . .
```

```
C:\Users\avina\Desktop\Practical\DA\Qn38.cpp - [Executing] - Dev-C++ 5.11
File Edit Search View Project Execute Tools AStyle Window Help
(globals)
Qn35.cpp Qn36.cpp Qn37.cpp Qn38.cpp Qn39.cpp Qn40.cpp
42 if (!visited[col]) {
43     // Mark this worker as visited
44     visited[col] = 1;
45     assignment[row] = col;
46     // Calculate the Lower bound for this node
47     int newBound = bound + costMatrix[row][col];
48     int lowerBound = calculateLowerBound(costMatrix, assignment, n,
49     row + 1, visited);
50     // If the lower bound is less than the minimum cost found so far, explore further
51     if (newBound + lowerBound < minCost) {
52         minCost = newBound + lowerBound;
53         n, newBound, currCost + costMatrix[row][col], minCost, visited);
54     }
55     // Backtrack
56     visited[col] = 0;
57     assignment[row] = -1;
58 }
59 }
60 return minCost;
61 }
62 int calculateLowerBound(int costMatrix[N][N], int assignment[], int n, int
63 row, int visited[]) {
Compiler Resources Compile Log Debug Find Results Close
Processing C++ source file...
-----
- C++ Compiler: C:\Program Files (x86)\Dev-Cpp\MinGW64\bin\g++.exe
- Command: g++.exe "C:\Users\avina\Desktop\Practical\DA\Qn38.cpp" -o "C:\Users\avina\Desktop\Practical\DA\Qn38.exe"
Compilation results...
-----
- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\avina\Desktop\Practical\DA\Qn38.exe
- Output Size: 129.5791015625 KiB
- Compilation Time: 0.31s
Line: 50 Col: 63 Sel: 0 Lines: 95 Length: 3051 Insert Done parsing in 0.015 seconds
```

```
C:\Users\avina\Desktop\Pract x + v
Minimum cost is 32

-----
Process exited after 0.0686 seconds with return value 0
Press any key to continue . . .
```

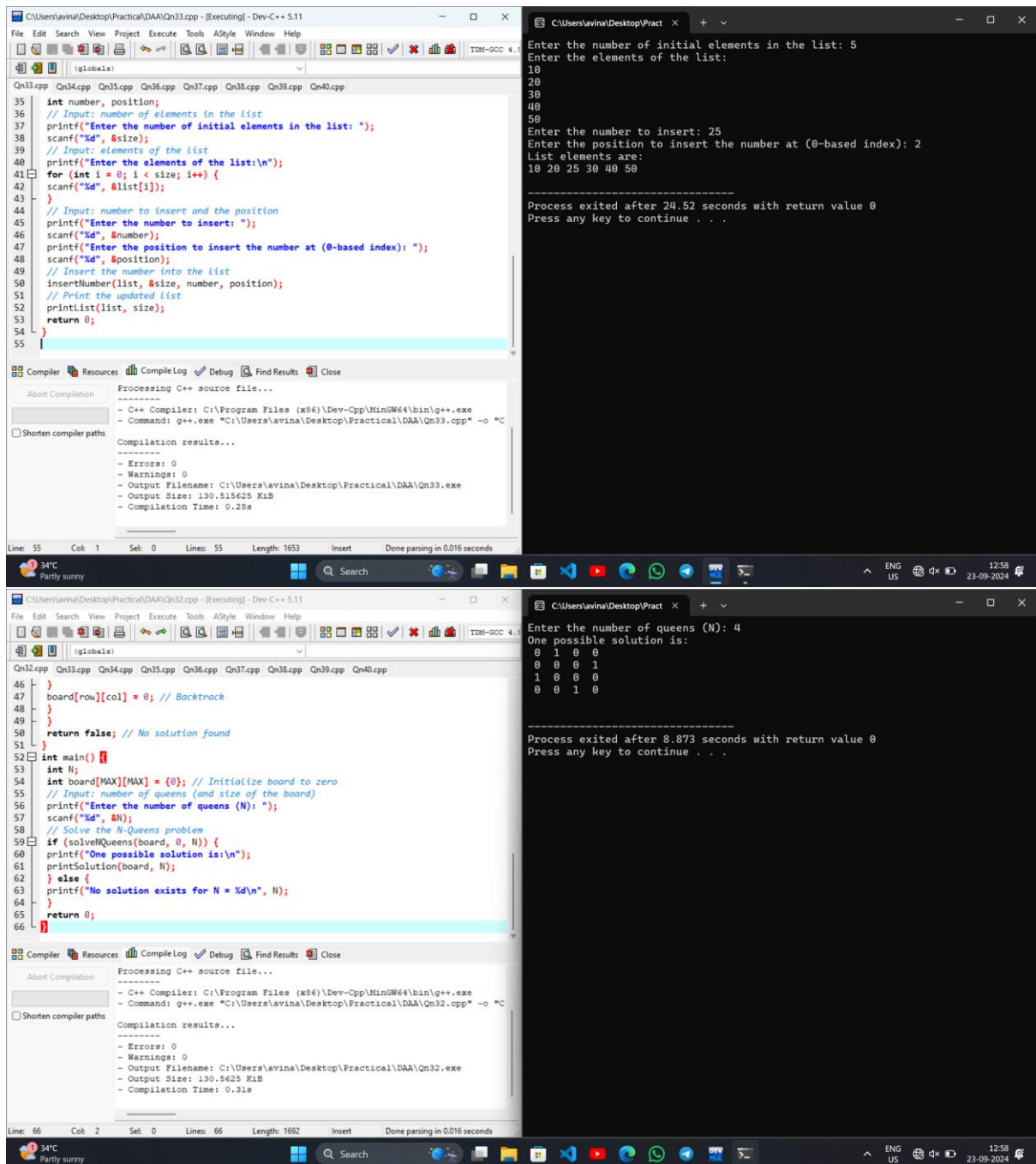


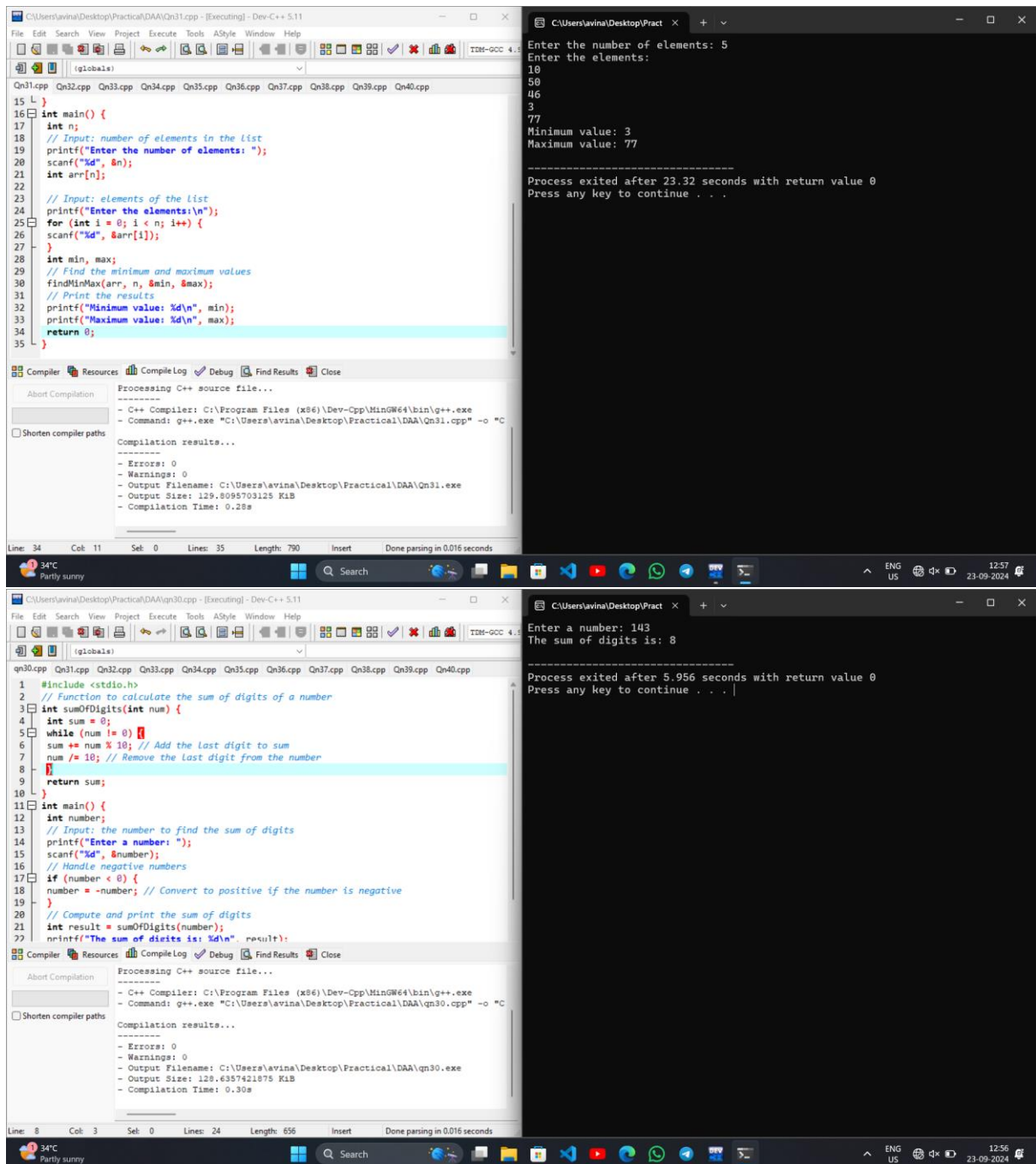
```
C:\Users\avina\Desktop\Practical\DA\Qn35.cpp - [Executing] - Dev-C++ 5.11
File Edit Search View Project Execute Tools AStyle Window Help
(globals)
Qn35.cpp
69 }
70 // Input: number of colors
71 printf("Enter the number of colors: ");
72 scanf("%d", &m);
73
74 int color[V];
75
76 // Solve the graph coloring problem
77 if (graphColoring(graph, V, m, color)) {
78     printf("Solution exists with %d colors:\n", m);
79     printSolution(color, V); // Pass the correct color array
80 } else {
81     printf("Solution does not exist with %d colors.\n", m);
82 }
83
84 return 0;
85 }
86
Compiler Resources Compile Log Debug Find Results Close
Processing C++ source file...
-----
- C++ Compiler: C:\Program Files (x86)\Dev-Cpp\MinGW64\bin\g++.exe
- Command: g++.exe "C:\Users\avina\Desktop\Practical\DA\Qn35.cpp" -o "C:\Users\avina\Desktop\Practical\DA\Qn35.exe"
Compilation results...
-----
- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\avina\Desktop\Practical\DA\Qn35.exe
- Output Size: 131.115234375 KiB
- Compilation Time: 0.30s
Line: 86 Col: 1 Set: 0 Lines: 86 Length: 2702 Insert Done parsing in 0.031 seconds
```

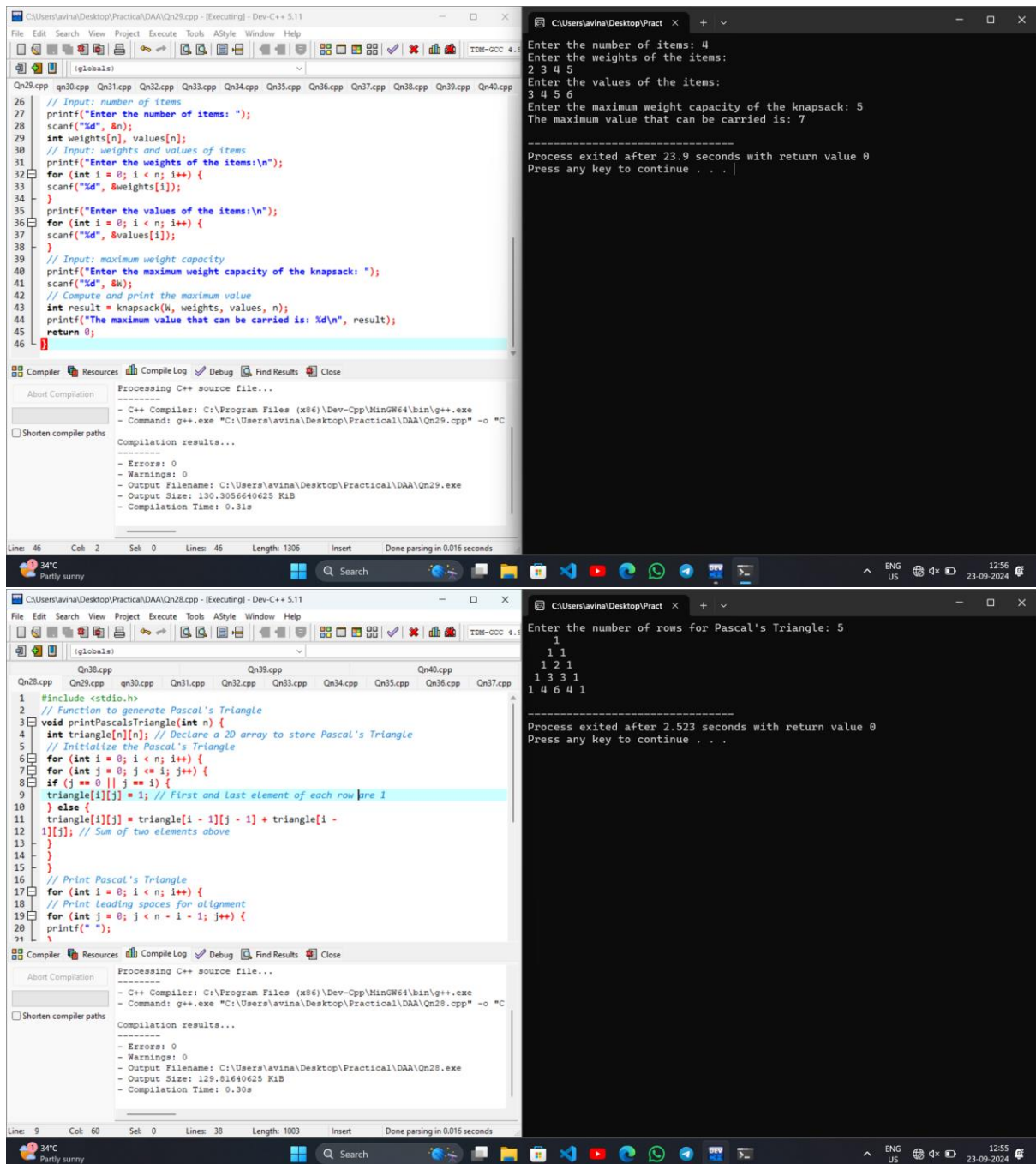
```
C:\Users\avina\Desktop\Pract x + v
Enter the number of vertices: 4
Enter the number of edges: 4
Enter the edges (format: u v):
0 1
0 2
1 2
1 3
Enter the number of colors: 3
Solution exists with 3 colors:
Solution:
Vertex 0 ----> Color 1
Vertex 1 ----> Color 2
Vertex 2 ----> Color 3
Vertex 3 ----> Color 1
-----
Process exited after 83.11 seconds with return value 0
Press any key to continue . . . |
```

```
C:\Users\avina\Desktop\Practical\DA\Qn34.cpp - [Executing] - Dev-C++ 5.11
File Edit Search View Project Execute Tools AStyle Window Help
(globals)
Qn34.cpp Qn35.cpp Qn36.cpp Qn37.cpp Qn38.cpp Qn39.cpp Qn40.cpp
29 findSubsets(arr, n, index + 1, target, currentSum, subset, subsetSize);
30 }
31 int main() {
32     int arr[MAX], n, target;
33     int subset[MAX];
34     // Input: number of elements
35     printf("Enter the number of elements: ");
36     scanf("%d", &n);
37     // Input: elements of the set
38     printf("Enter the elements:\n");
39     for (int i = 0; i < n; i++) {
40         scanf("%d", &arr[i]);
41     }
42     // Input: target sum
43     printf("Enter the target sum: ");
44     scanf("%d", &target);
45     // Find and print all subsets that sum up to the target
46     printf("Subsets that sum up to %d are:\n", target);
47     findSubsets(arr, n, 0, target, 0, subset, 0);
48 }
49
Compiler Resources Compile Log Debug Find Results Close
Processing C++ source file...
-----
- C++ Compiler: C:\Program Files (x86)\Dev-Cpp\MinGW64\bin\g++.exe
- Command: g++.exe "C:\Users\avina\Desktop\Practical\DA\Qn34.cpp" -o "C:\Users\avina\Desktop\Practical\DA\Qn34.exe"
Compilation results...
-----
- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\avina\Desktop\Practical\DA\Qn34.exe
- Output Size: 129.8486328125 KiB
- Compilation Time: 0.30s
Line: 49 Col: 2 Set: 0 Lines: 49 Length: 1498 Insert Done parsing in 0.016 seconds
```

```
C:\Users\avina\Desktop\Pract x + v
Enter the number of elements: 5
Enter the elements:
1 2 3 4 5
Enter the target sum: 5
Subsets that sum up to 5 are:
{ 1 4 }
{ 2 3 }
{ 5 }
-----
Process exited after 17.36 seconds with return value 0
Press any key to continue . . . |
```





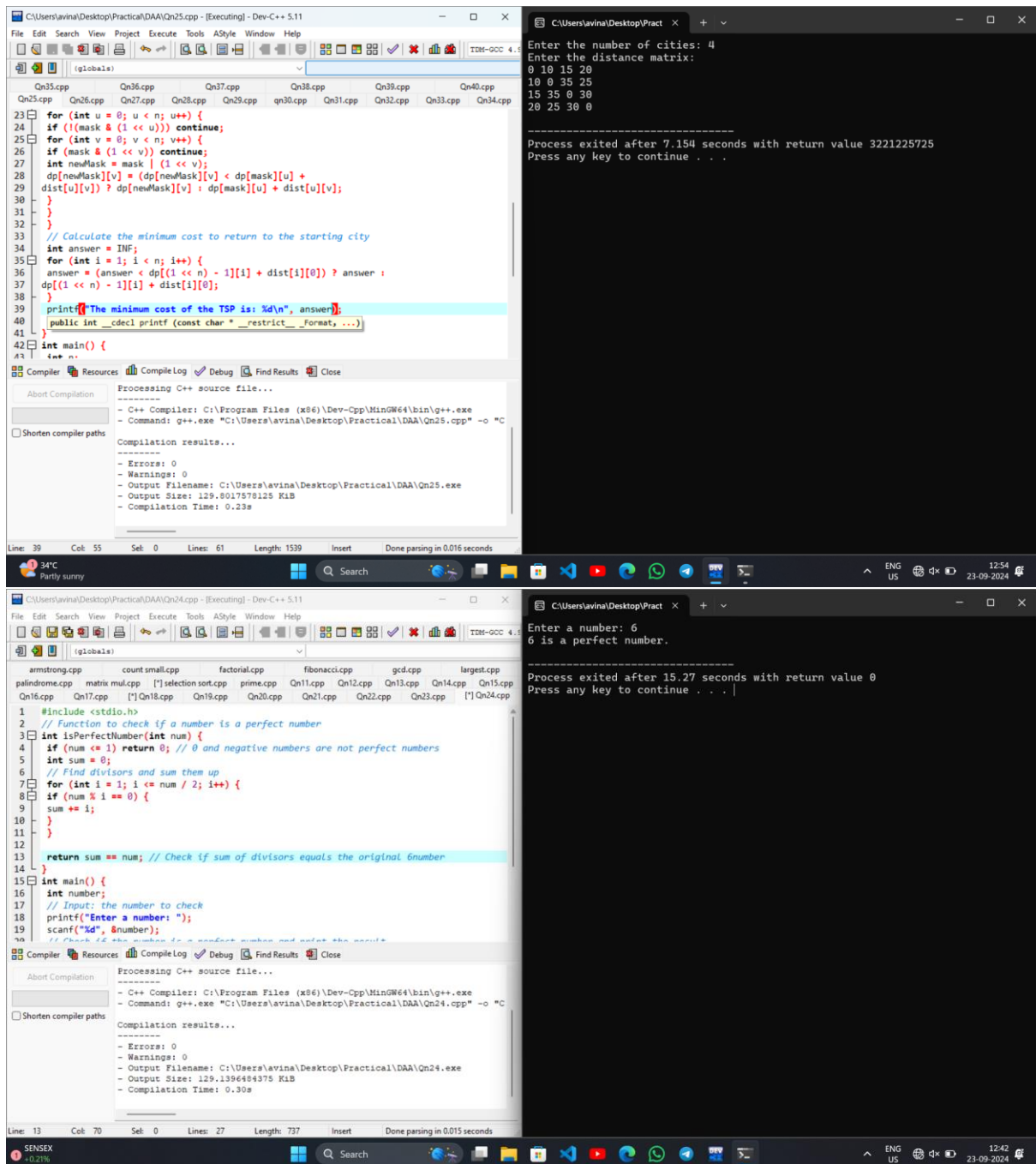


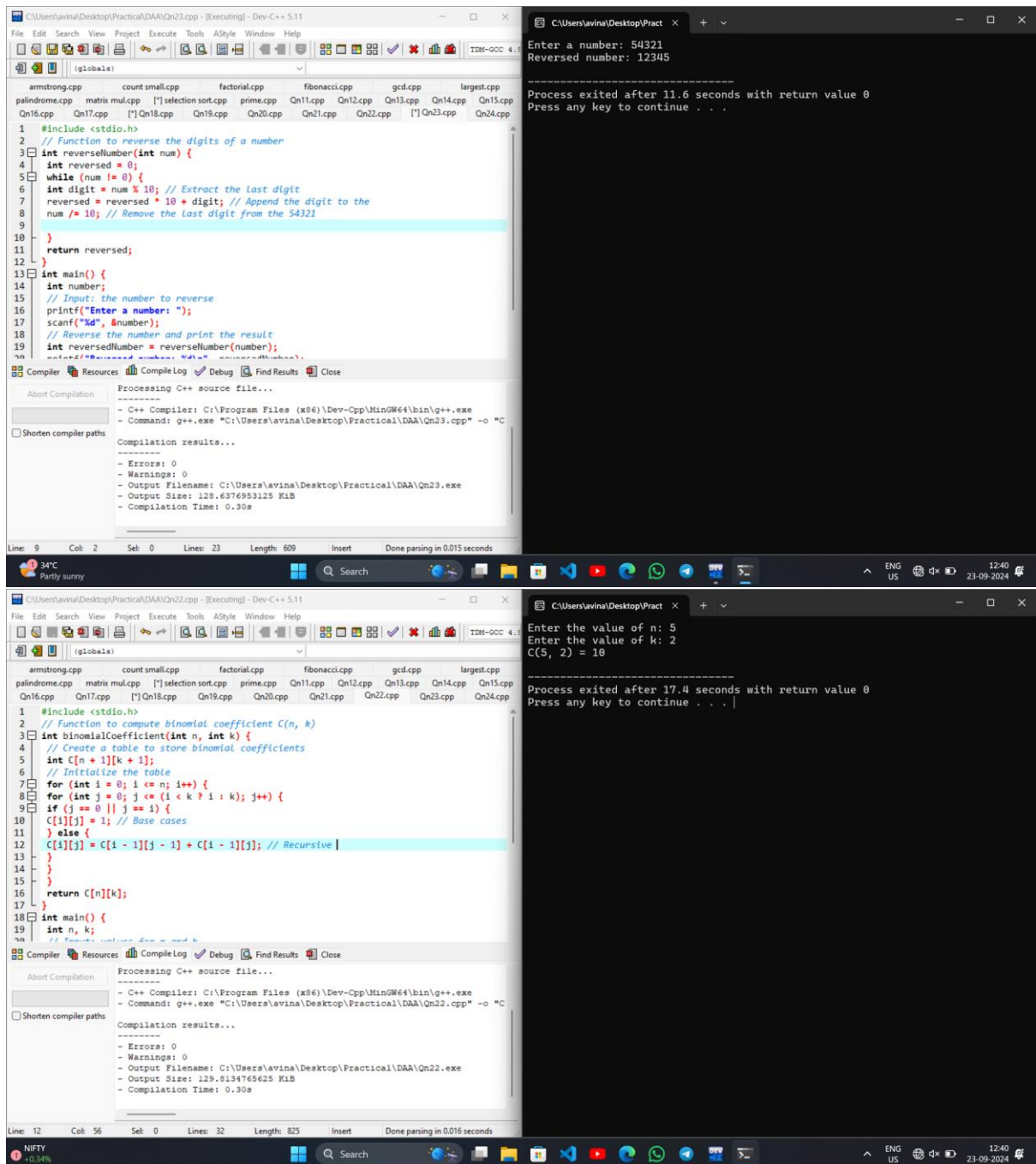
```
C:\Users\avina\Desktop\Practical\DAA\Qn27.cpp - [Executing] - Dev-C++ 5.11
File Edit Search View Project Execute Tools AStyle Window Help
[Icons] (globals)
Qn36.cpp Qn37.cpp Qn38.cpp Qn39.cpp Qn40.cpp
[*] Qn27.cpp Qn28.cpp Qn29.cpp qn30.cpp Qn31.cpp Qn32.cpp Qn33.cpp Qn34.cpp Qn35.cpp
49
50 // Input: number of vertices
51 printf("Enter the number of vertices: ");
52 scanf("%d", &n);
53 int graph[MAX][MAX];
54
55 // Input: adjacency matrix
56 printf("Enter the adjacency matrix:\n");
57 for (int i = 0; i < n; i++) {
58     for (int j = 0; j < n; j++) {
59         scanf("%d", &graph[i][j]);
60         if (i != j && graph[i][j] == 0) {
61             graph[i][j] = INF; // Treat zero as infinity for non diagonal elements
62         }
63     }
64 }
65 // Perform Floyd-Warshall algorithm
66 floydWarshall(graph, n);
67 return 0;
68
Compiler Resources Compile Log Debug Find Results Close
Processing C++ source file...
- C++ Compiler: C:\Program Files (x86)\Dev-Cpp\MinGW64\bin\g++.exe
- Command: g++.exe "C:\Users\avina\Desktop\Practical\DAA\Qn27.cpp" -o "C:\Users\avina\Desktop\Practical\DAA\Qn27.exe"
Compilation results...
- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\avina\Desktop\Practical\DAA\Qn27.exe
- Output Size: 131.4853515625 KiB
- Compilation Time: 0.30s
Line: 68 Col: 2 Sel: 0 Lines: 68 Length: 1306 Insert Done parsing in 0.016 seconds
```

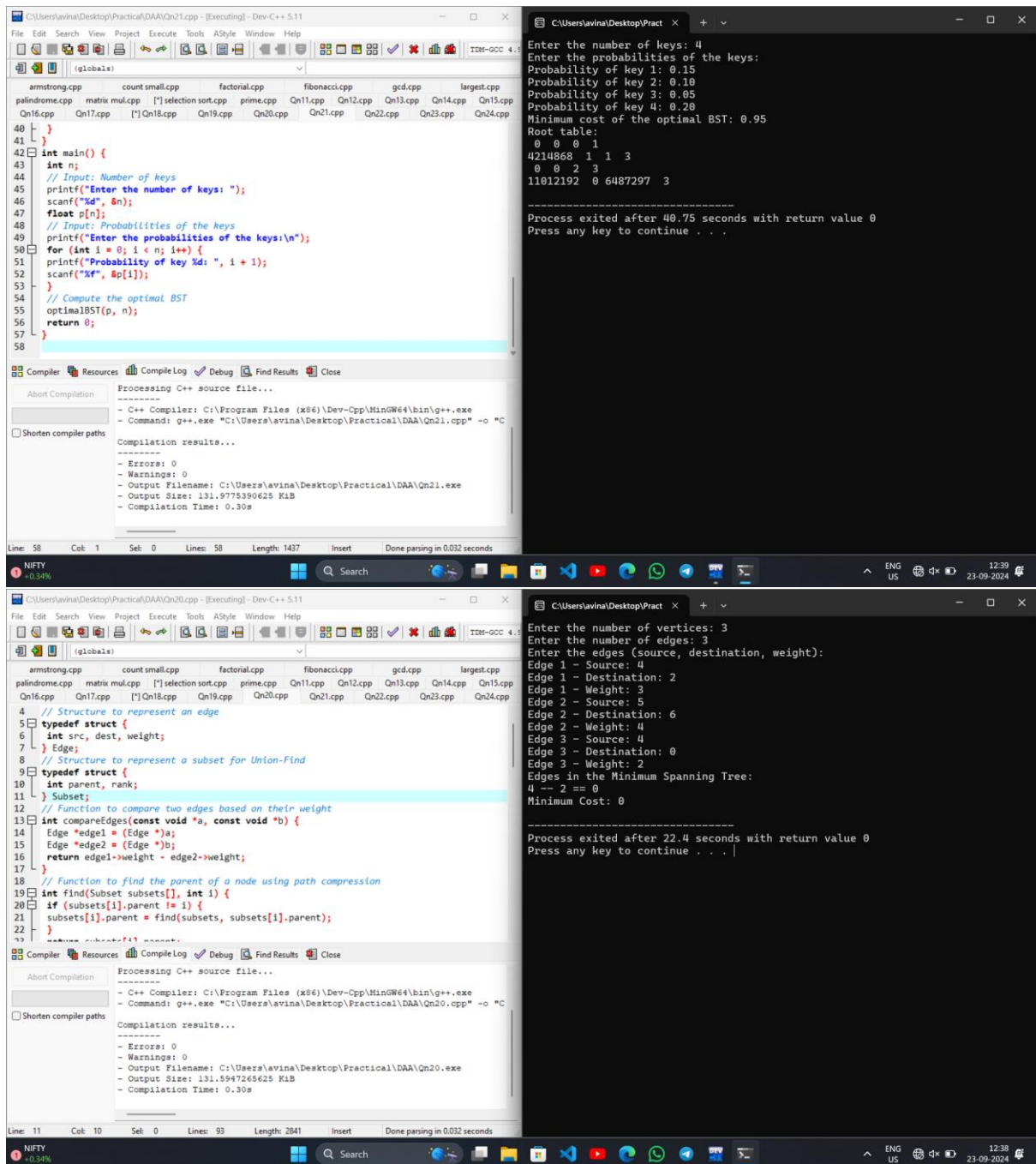
```
C:\Users\avina\Desktop\Pract x + v
Enter the number of vertices: 4
Enter the adjacency matrix:
0 3 0 7
8 0 2 0
5 0 0 1
2 0 0 0
Shortest distances between every pair of vertices:
1
0 3 5 6
5 0 2 3
3 6 0 1
2 5 7 0
-----
Process exited after 31.62 seconds with return value 0
Press any key to continue . . .
```

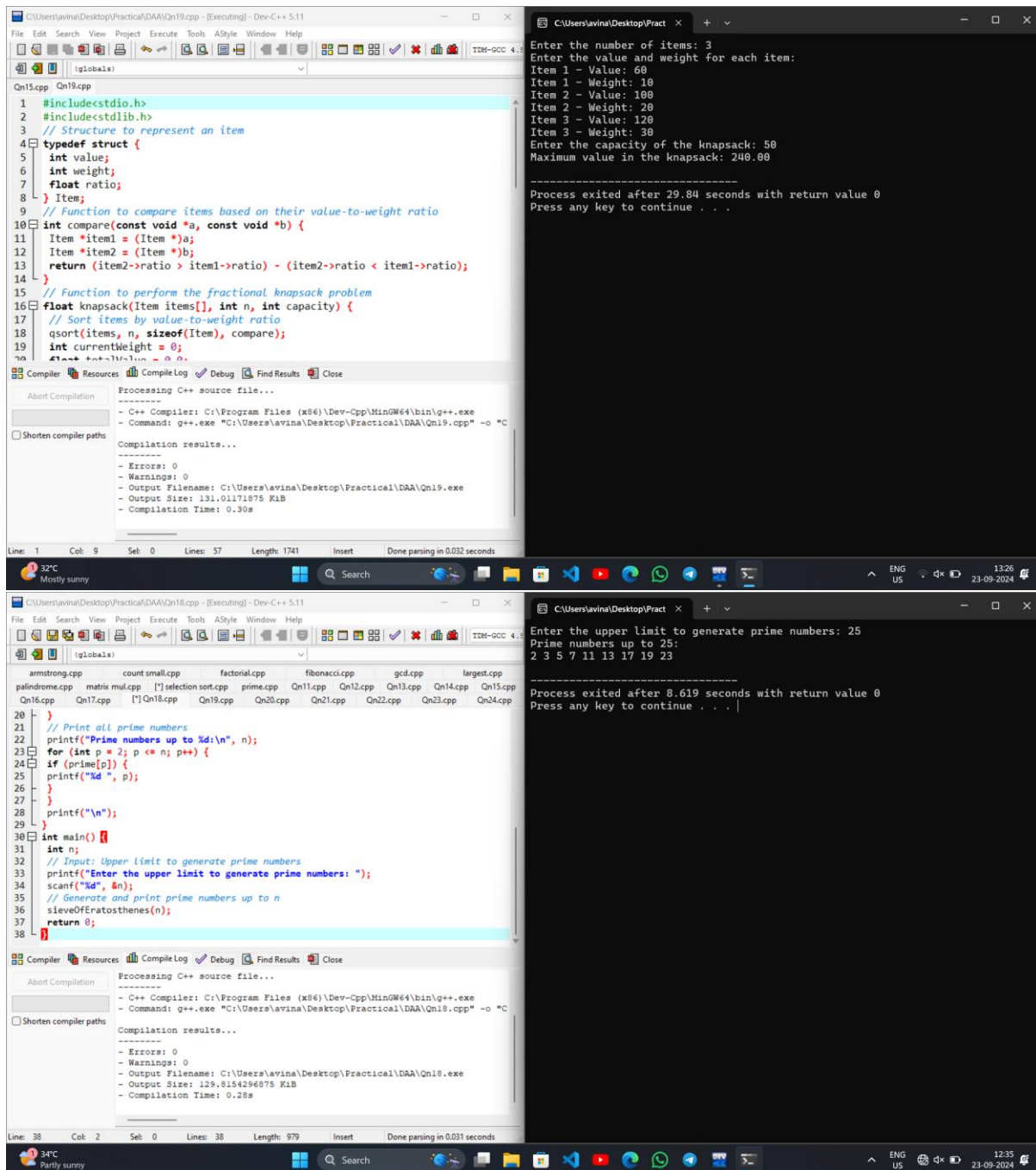
```
C:\Users\avina\Desktop\Practical\DAA\Qn26.cpp - [Executing] - Dev-C++ 5.11
File Edit Search View Project Execute Tools AStyle Window Help
[Icons] (globals)
Qn36.cpp Qn37.cpp Qn38.cpp Qn39.cpp Qn40.cpp
Qn26.cpp Qn27.cpp Qn28.cpp Qn29.cpp qn30.cpp Qn31.cpp Qn32.cpp Qn33.cpp Qn34.cpp Qn35.cpp
6
7 for (int j = 0; j < n - 1; j++) {
8     printf(" ");
9 }
10 // Print numbers in the current row
11 for (int k = 1; k <= i; k++) {
12     printf("%d ", k);
13 }
14 printf("\n"); // Move to the next line
15 }
16 int main() {
17     int n;
18     // Input: number of rows
19     printf("Enter the number of rows (n): ");
20     scanf("%d", &n);
21     // Print the pattern
22     printPattern(n);
23     return 0;
24 }
25
Compiler Resources Compile Log Debug Find Results Close
Processing C++ source file...
- C++ Compiler: C:\Program Files (x86)\Dev-Cpp\MinGW64\bin\g++.exe
- Command: g++.exe "C:\Users\avina\Desktop\Practical\DAA\Qn26.cpp" -o "C:\Users\avina\Desktop\Practical\DAA\Qn26.exe"
Compilation results...
- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\avina\Desktop\Practical\DAA\Qn26.exe
- Output Size: 129.30859375 KiB
- Compilation Time: 0.30s
Line: 25 Col: 1 Sel: 0 Lines: 25 Length: 511 Insert Done parsing in 0.016 seconds
```

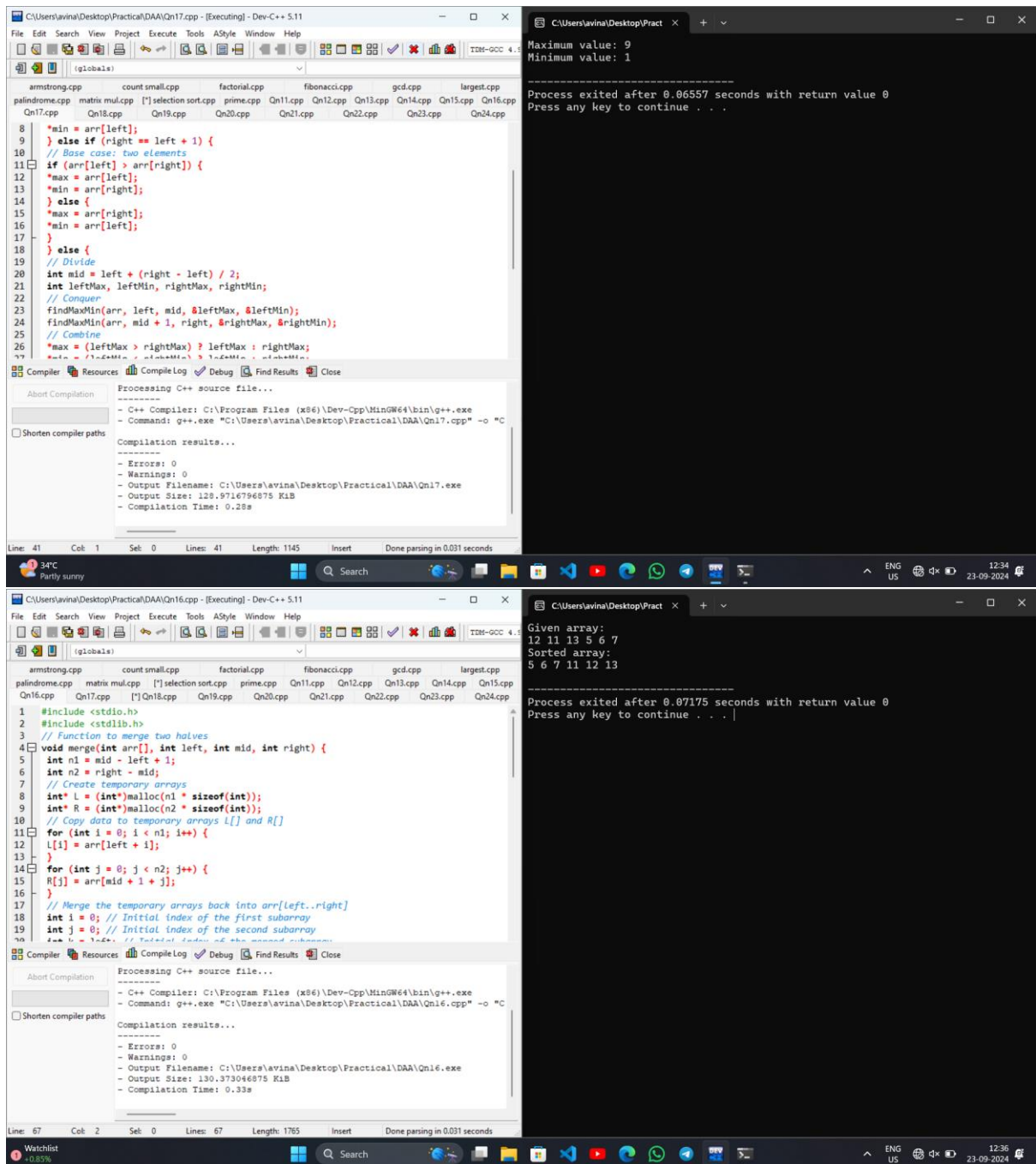
```
C:\Users\avina\Desktop\Pract x + v
Enter the number of rows (n): 5
1
1 2
1 2 3
1 2 3 4
1 2 3 4 5
-----
Process exited after 7.604 seconds with return value 0
Press any key to continue . . .
```

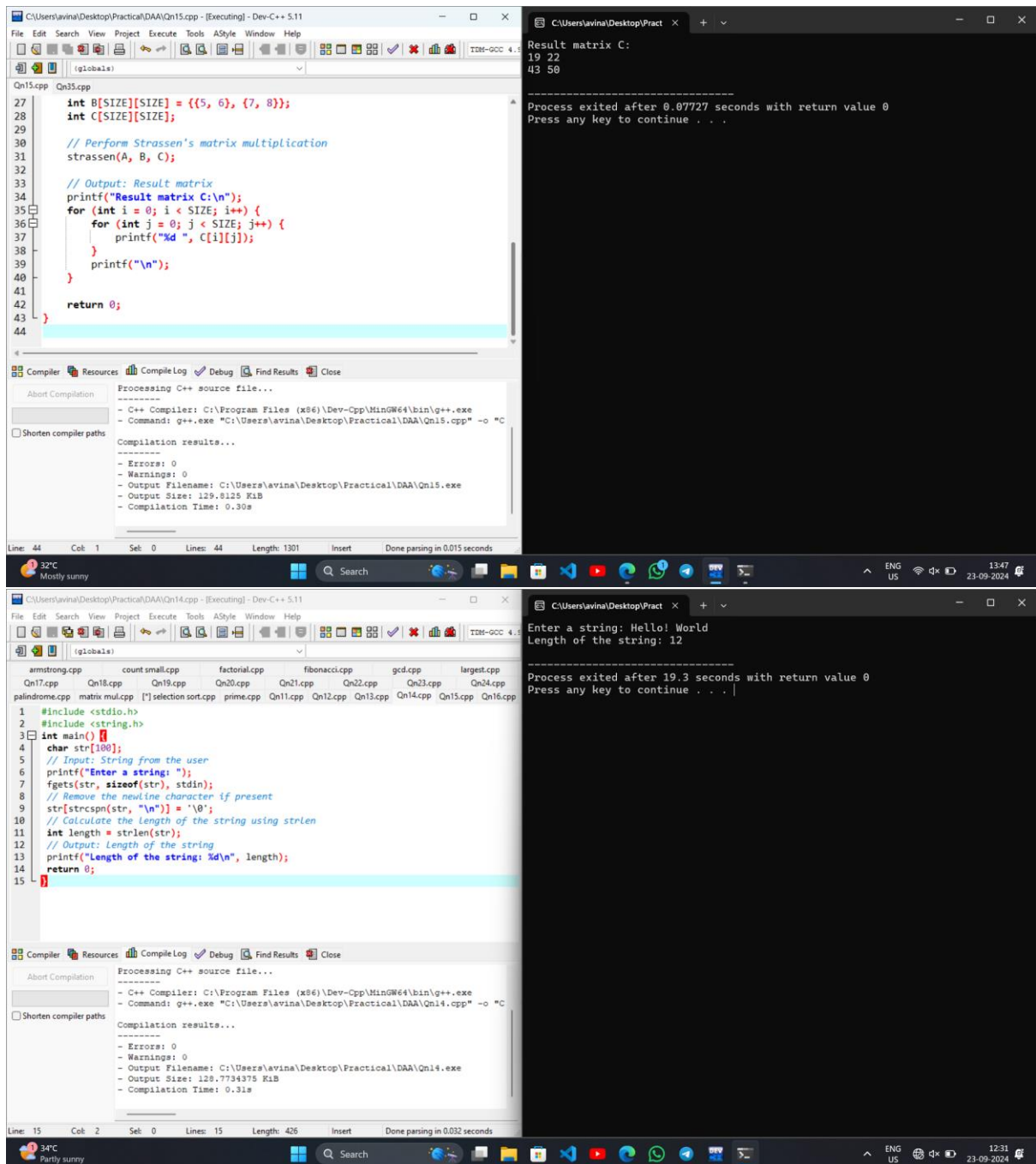


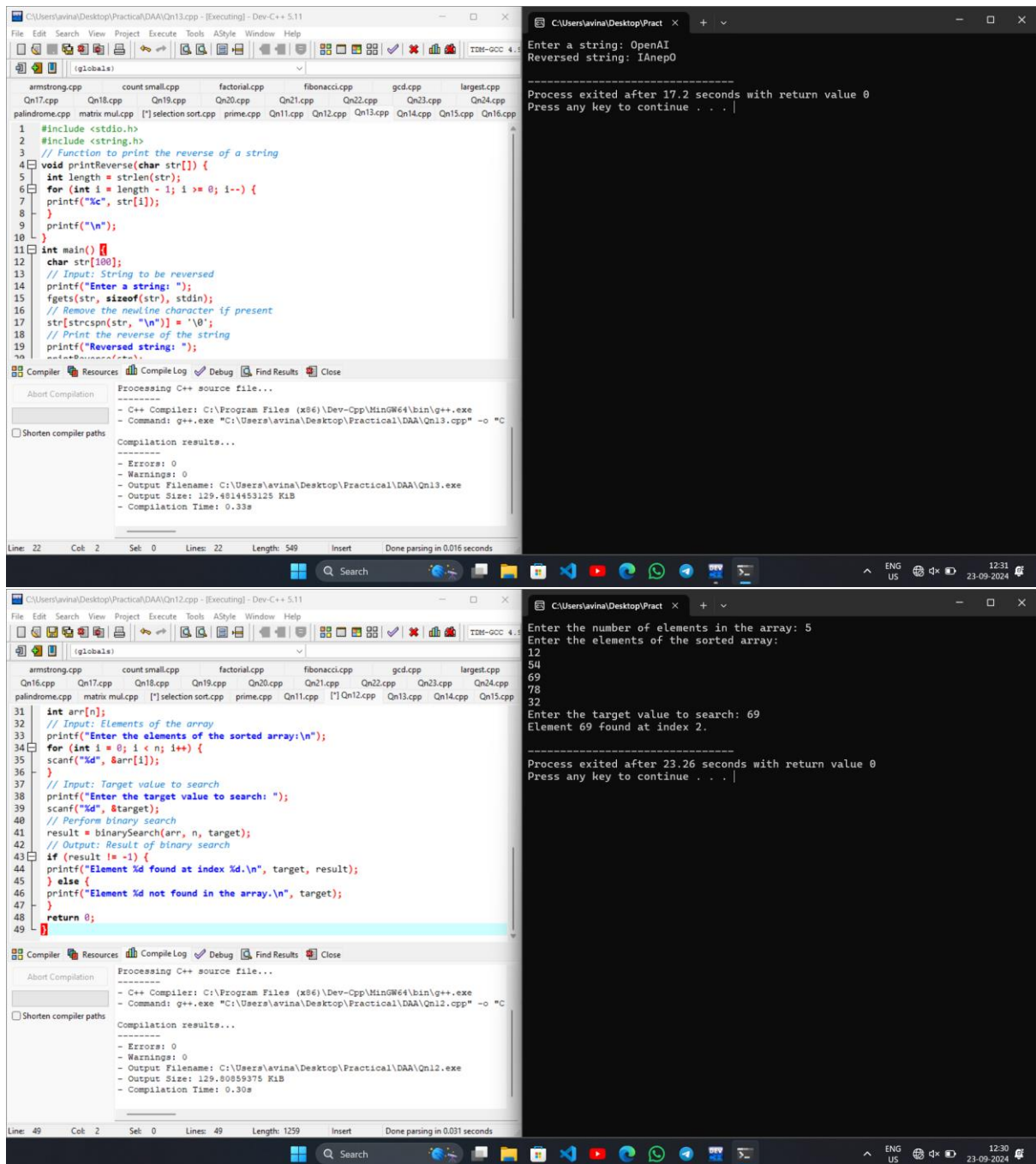


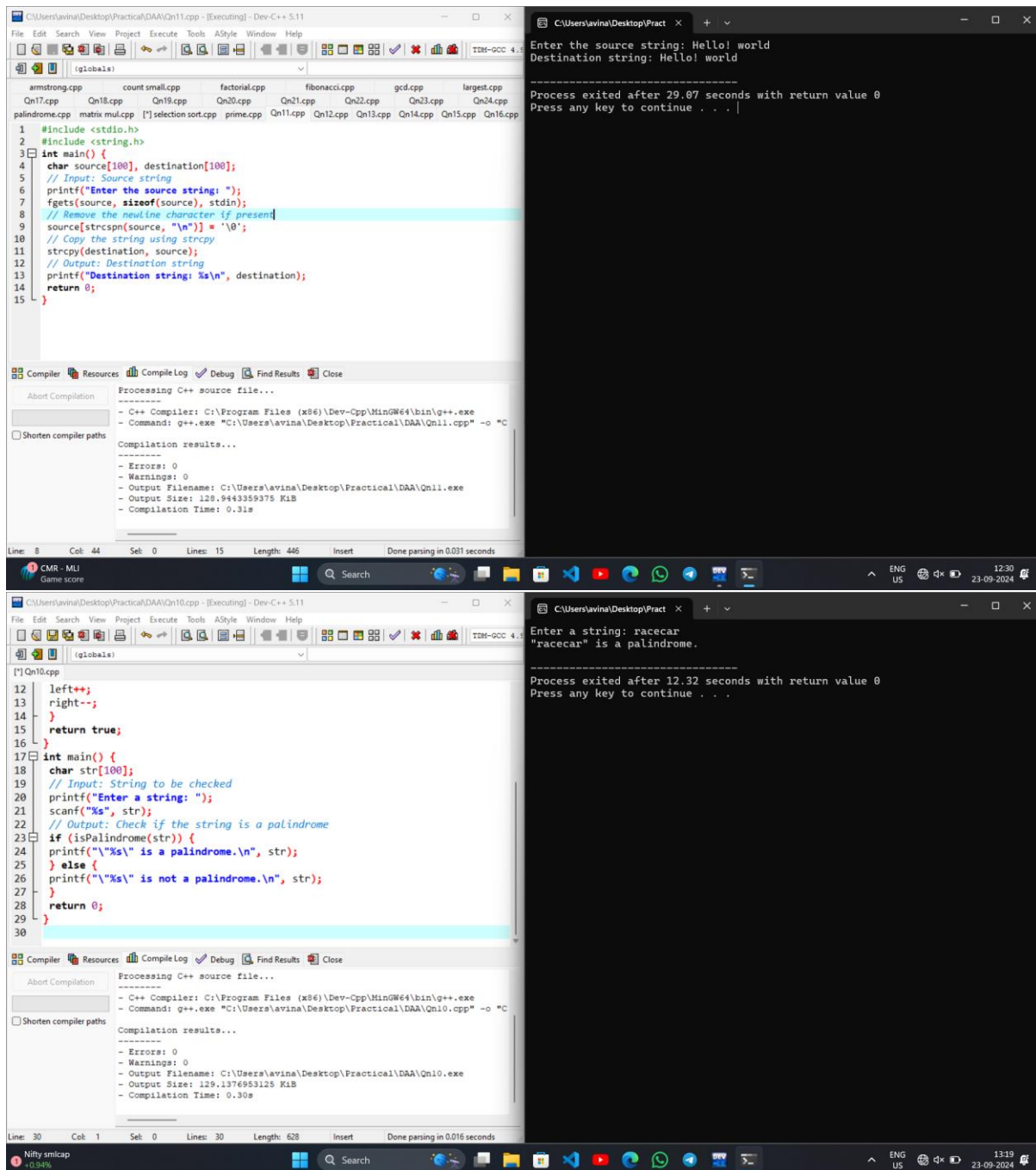


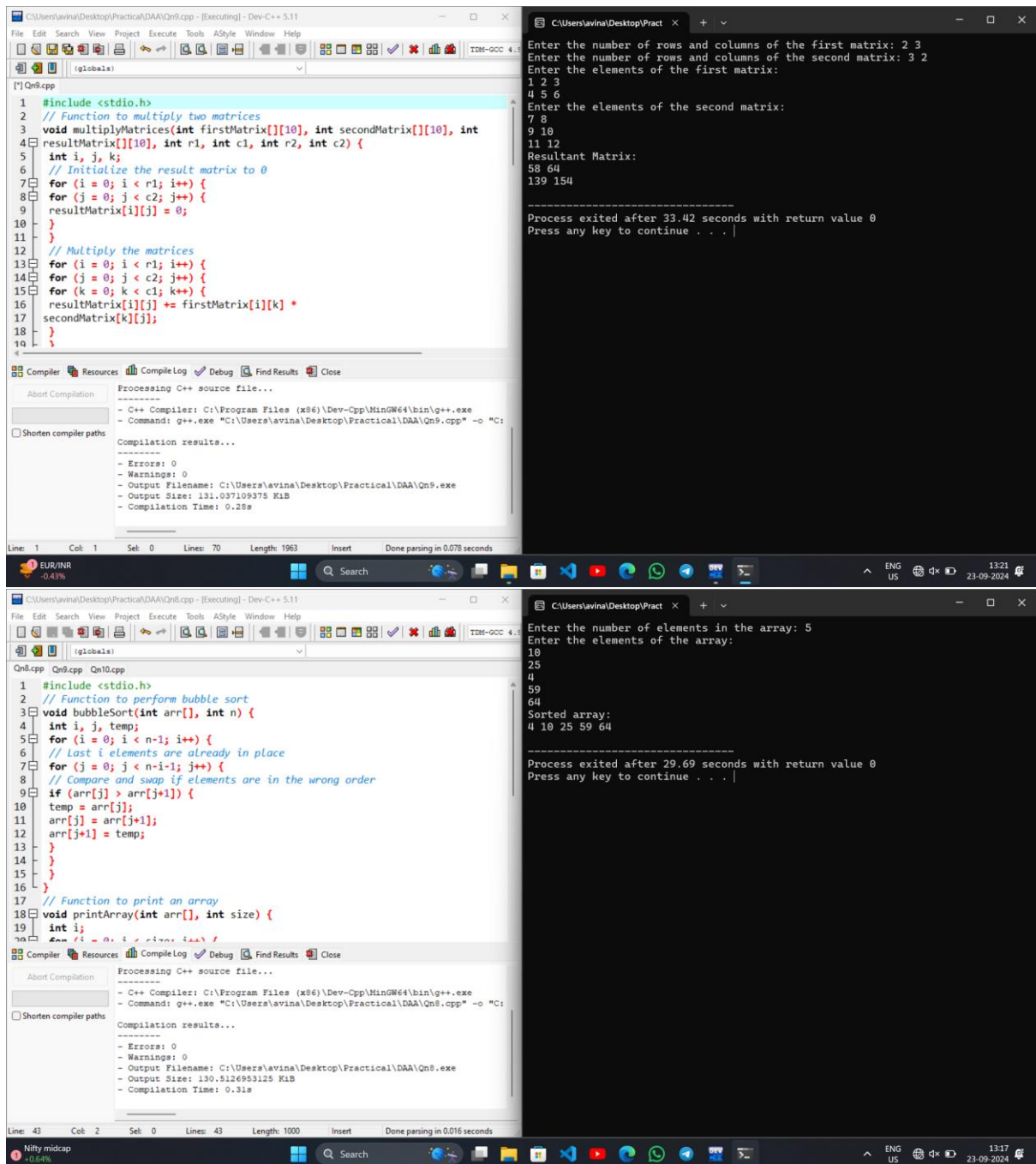


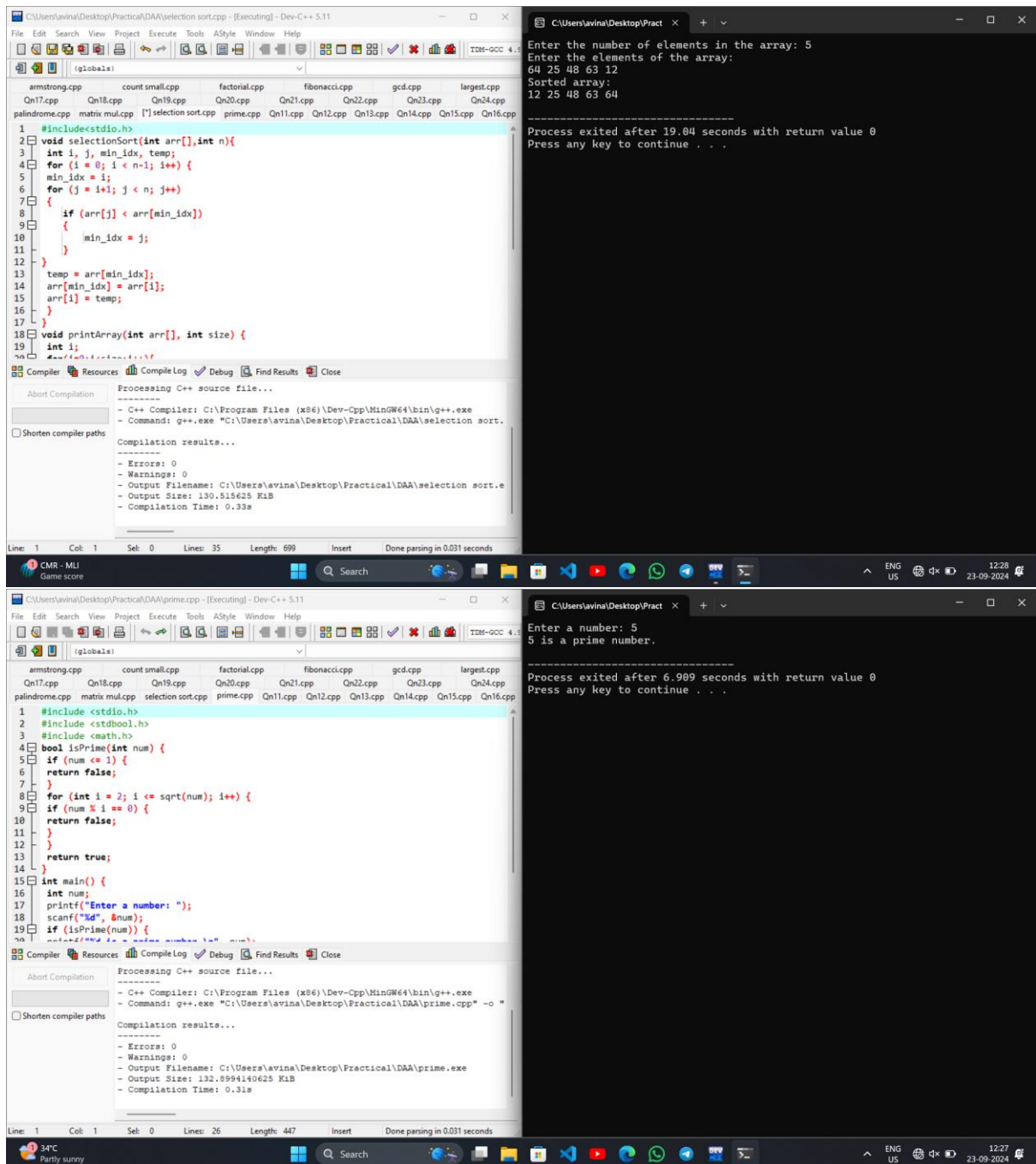


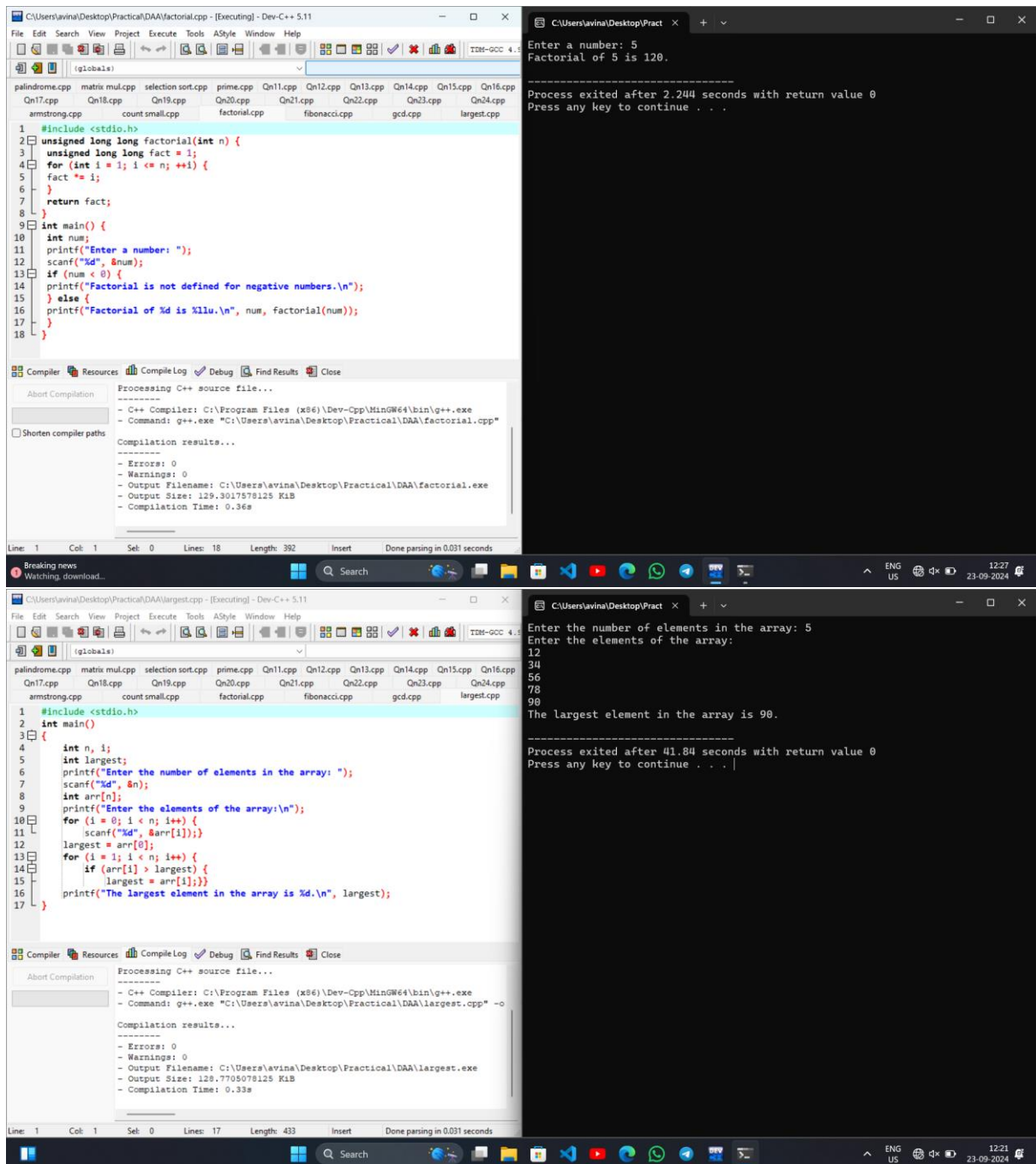


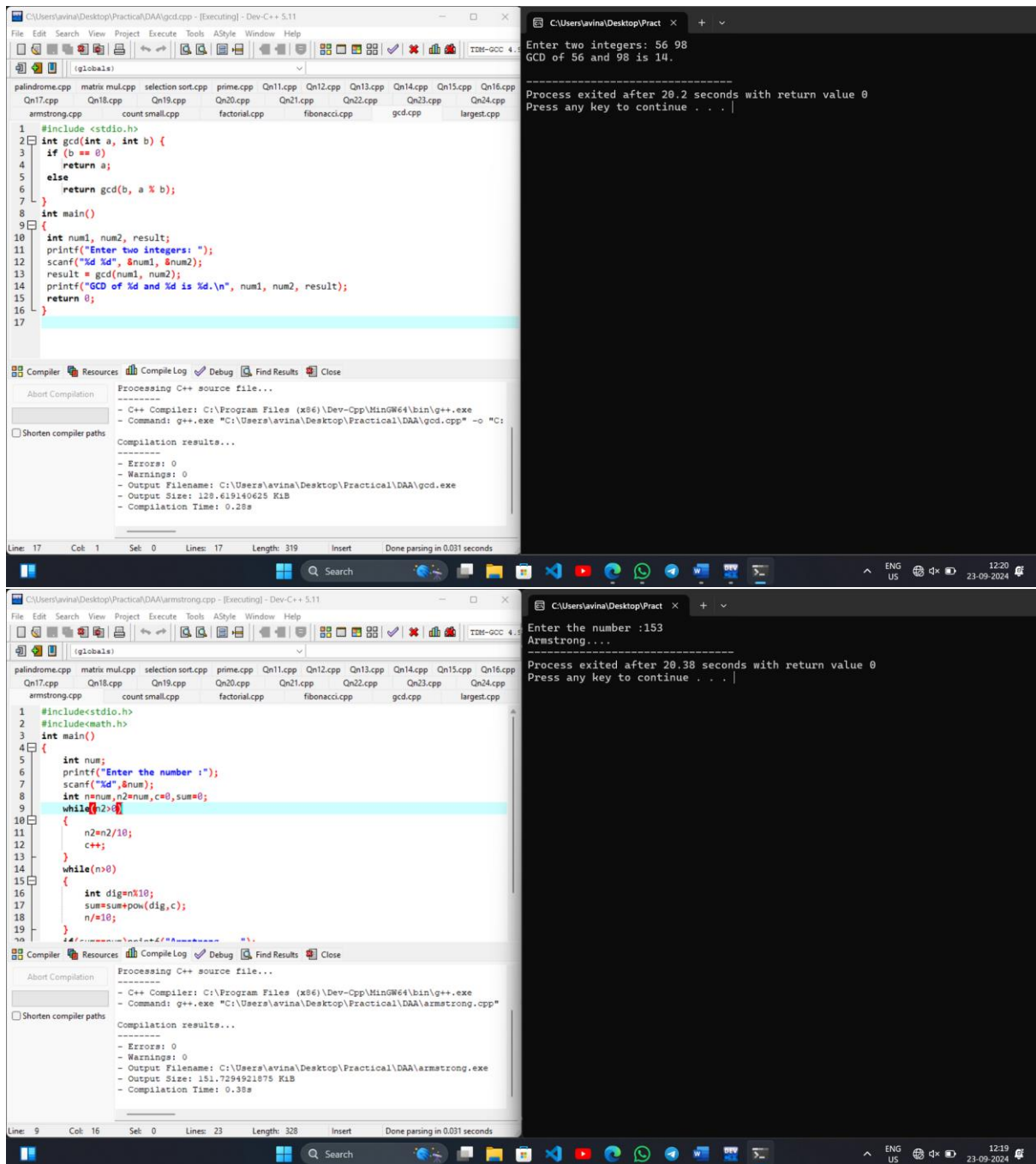












```
C:\Users\avina\Desktop\Practical\DAAFibonacci.cpp - [Executing] - Dev-C++ 5.11
File Edit Search View Project Execute Tools AStyle Window Help
(globals)
palindrome.cpp matrix mul.cpp selection sort.cpp prime.cpp Qn11.cpp Qn12.cpp Qn13.cpp Qn14.cpp Qn15.cpp Qn16.cpp
Qn17.cpp Qn18.cpp Qn19.cpp Qn20.cpp Qn21.cpp Qn22.cpp Qn23.cpp Qn24.cpp
armstrong.cpp count small.cpp factorial.cpp fibonacci.cpp gcd.cpp largest.cpp

1 #include <stdio.h>
2 int fibonacci(int n) {
3     if (n <= 1)
4         return n;
5     else
6         return (fibonacci(n - 1) + fibonacci(n - 2));
7 }
8 int main() {
9     int n, i;
10    printf("Enter the number of terms: ");
11    scanf("%d", &n);
12    printf("Fibonacci Series: ");
13    for (i = 0; i < n; i++) {
14        printf("%d ", fibonacci(i));
15    }
16 }
```

Compiler Resources Compile Log Debug Find Results Close

Processing C++ source file...

- C++ Compiler: C:\Program Files (x86)\Dev-Cpp\MinGW64\bin\g++.exe
- Command: g++.exe "C:\Users\avina\Desktop\Practical\DAAFibonacci.cpp"

Compilation results...

- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\avina\Desktop\Practical\DAAFibonacci.exe
- Output Size: 128.6328125 KiB
- Compilation Time: 0.39s

Line: 1 Col: 1 Sel: 0 Lines: 16 Length: 312 Insert Done parsing in 0.031 seconds

```
C:\Users\avina\Desktop\Pract x + v
Enter the number of terms: 10
Fibonacci Series: 0 1 1 2 3 5 8 13 21 34
-----
Process exited after 24.41 seconds with return value 0
Press any key to continue . . .
```

```
C:\Users\avina\Desktop\Practical\DAAQn40.cpp - [Executing] - Dev-C++ 5.11
File Edit Search View Project Execute Tools AStyle Window Help
(globals)
Qn35.cpp Qn36.cpp Qn37.cpp Qn38.cpp Qn39.cpp Qn40.cpp

15
16 return true;
17 }
18 // Function to solve the Hamiltonian Circuit problem
19 bool hamCycleUtil(int graph[V][V], int path[], int pos) {
20     // Base case: If all vertices are included in the path
21     if (pos == V) {
22         // And if there is an edge from the last included vertex to the first vertex
23         return graph[path[pos-1]][path[0]] == 1;
24     }
25     // Try different vertices as the next candidate in the path
26     for (int v = 1; v < V; v++) {
27         if (isSafe(graph, path, pos)) {
28             path[pos] = v;
29             // Recur to build the rest of the path
30             if (hamCycleUtil(graph, path, pos + 1)) {
31                 return true;
32             }
33         }
34     }
35     // If adding vertex v doesn't lead to a solution remove it
36 }
```

Compiler Resources Compile Log Debug Find Results Close

Processing C++ source file...

- C++ Compiler: C:\Program Files (x86)\Dev-Cpp\MinGW64\bin\g++.exe
- Command: g++.exe "C:\Users\avina\Desktop\Practical\DAAQn40.cpp" -o "C:\Users\avina\Desktop\Practical\DAAQn40.exe"

Compilation results...

- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\avina\Desktop\Practical\DAAQn40.exe
- Output Size: 129.2265625 KiB
- Compilation Time: 0.28s

Line: 22 Col: 66 Sel: 0 Lines: 69 Length: 1888 Insert Done parsing in 0.031 seconds

```
C:\Users\avina\Desktop\Pract x + v
No Hamiltonian Circuit found
-----
Process exited after 0.07173 seconds with return value 0
Press any key to continue . . .
```