

```
How many states in the NFA : 4
How many symbols in the input alphabet : 2
Enter the input symbol 1 : 0
Enter the input symbol 2 : 1
How many final states : 1
Enter the final state 1 : 2
How many transitions from state 0 for the input 0 : 1
Enter the transition 1 from state 0 for the input 0 : 1
How many transitions from state 0 for the input 1 : 1
Enter the transition 1 from state 0 for the input 1 : 3
How many transitions from state 1 for the input 0 : 2
Enter the transition 1 from state 1 for the input 0 : 1
Enter the transition 2 from state 1 for the input 0 : 2
How many transitions from state 1 for the input 1 : 1
Enter the transition 1 from state 1 for the input 1 : 1
How many transitions from state 2 for the input 0 : 0
How many transitions from state 2 for the input 1 : 0
How many transitions from state 3 for the input 0 : 1
Enter the transition 1 from state 3 for the input 0 : 3
How many transitions from state 3 for the input 1 : 2
Enter the transition 1 from state 3 for the input 1 : 2
Enter the transition 2 from state 3 for the input 1 : 3
The transitions are stored as shown below
mat[0][0][0] = 1
mat[0][1][0] = 3
mat[1][0][0] = 1
mat[1][0][1] = 2
mat[1][1][0] = 1
mat[3][0][0] = 3
mat[3][1][0] = 2
mat[3][1][1] = 3
Enter the input string : 0111010
Accepted
Try with another input
Enter the input string : 10010101
Accepted
Try with another input
Enter the input string : 0101001

40 |         printf("How many transitions from state %d for the input %d : ",i,symbol[j]);
41 |         scanf("%d",&n);
42 |         for(k=0;k<n;k++)
43 |         {
44 |             printf("Enter the transition %d from state %d for the input %d : ",k+1,i,symbol[j]);
45 |             scanf("%d",&mat[i][j][k]);
46 |         }
47 |     }
```

Compiler | Resources | Compile Log | Debug | Find Results | Close

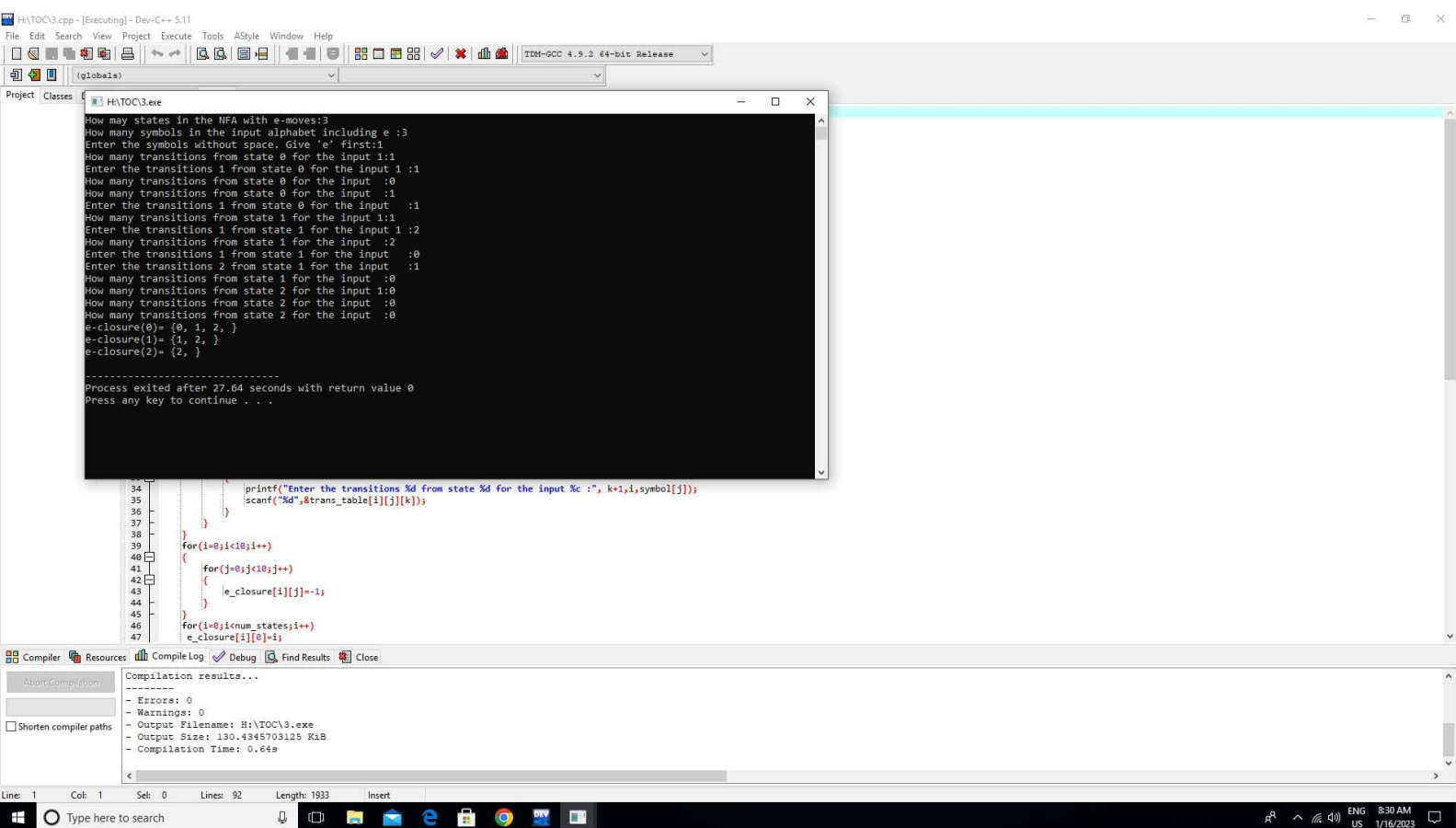
Compilation results...

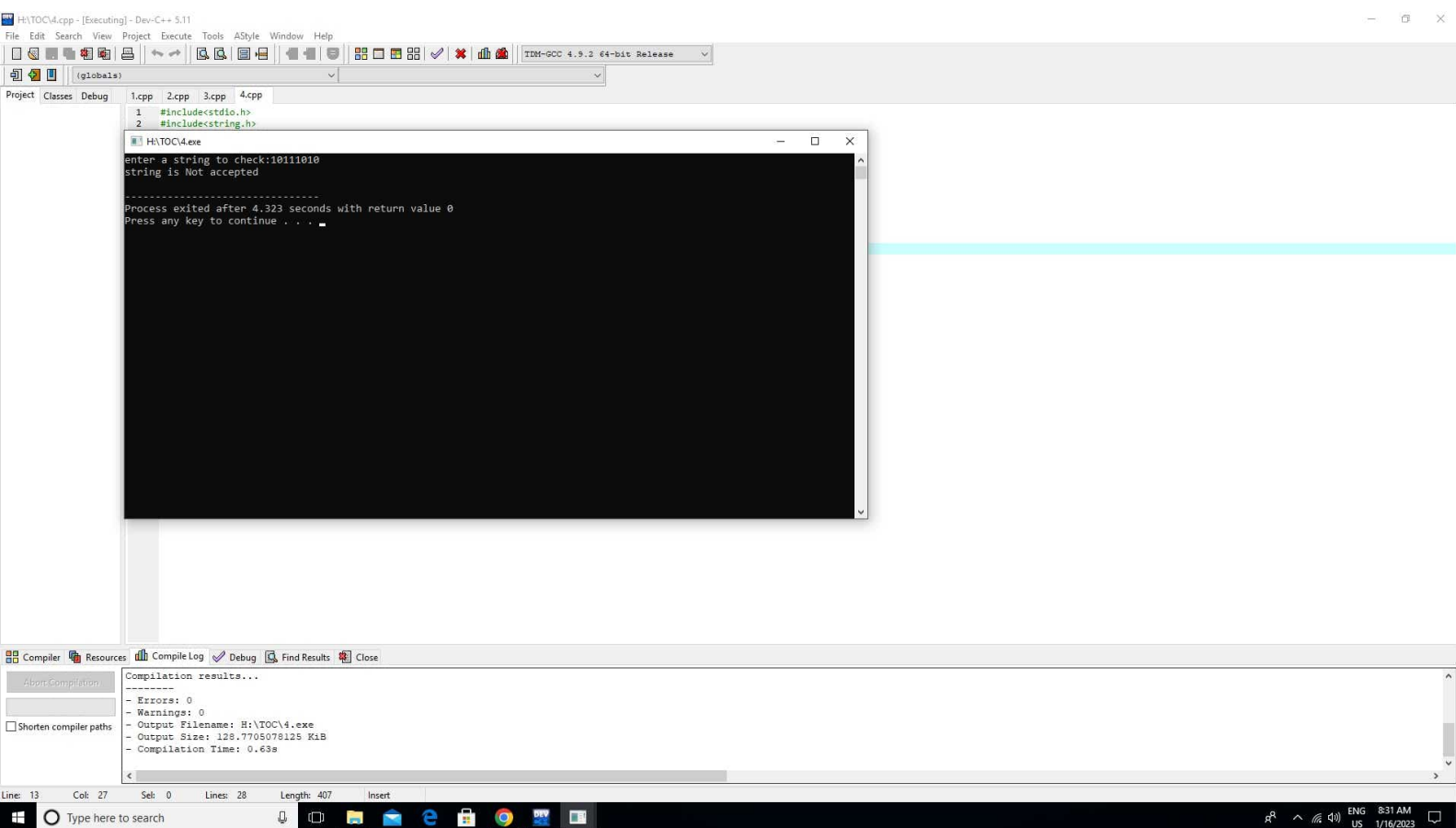
- Errors: 0
- Warnings: 0
- Output Filename: H:\TQC\2.exe
- Output Size: 130.2705078125 KiB
- Compilation Time: 0.61s

Line: 1 Col: 1 Sel: 0 Lines: 121 Length: 2912 Insert

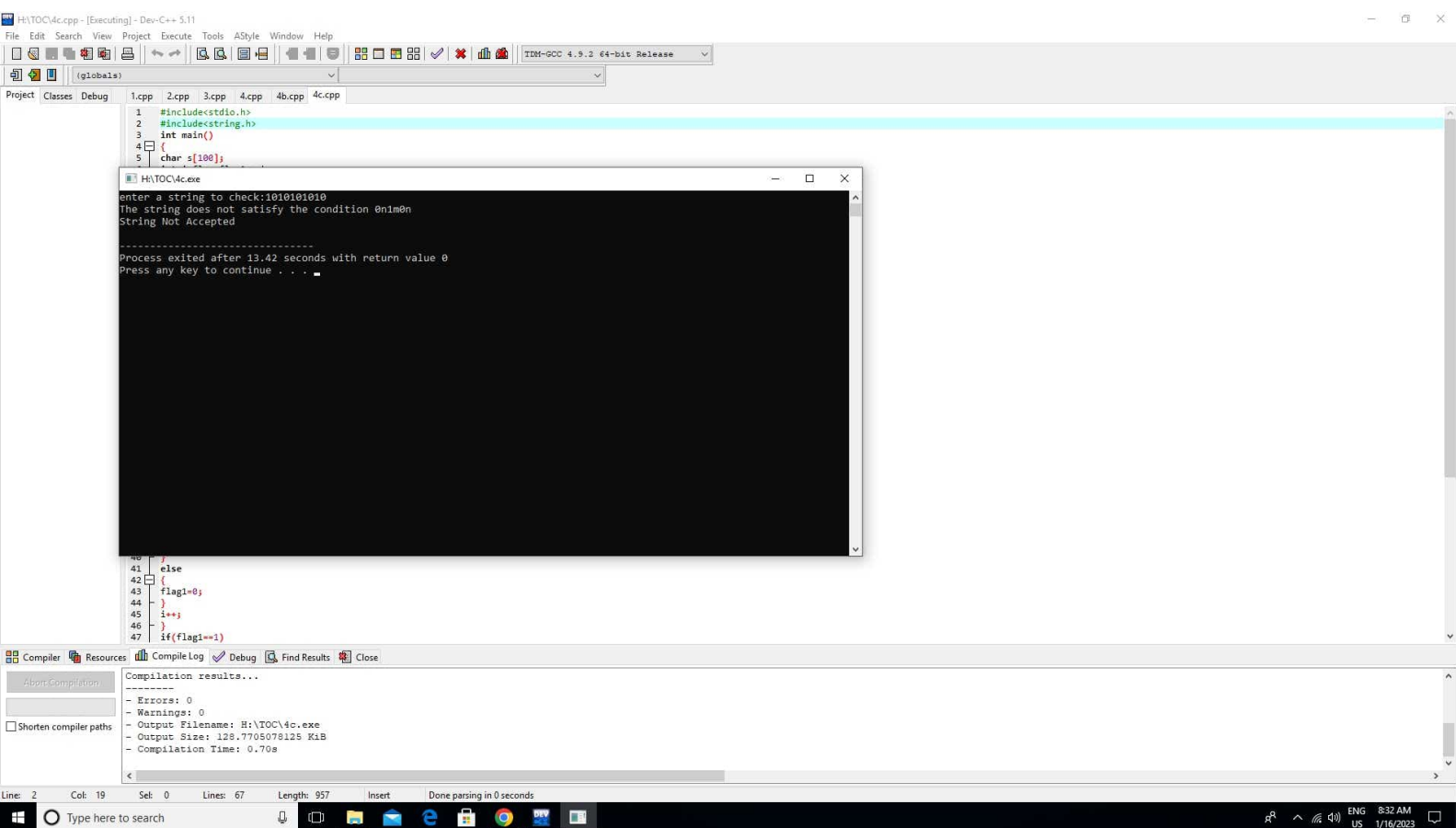
Type here to search

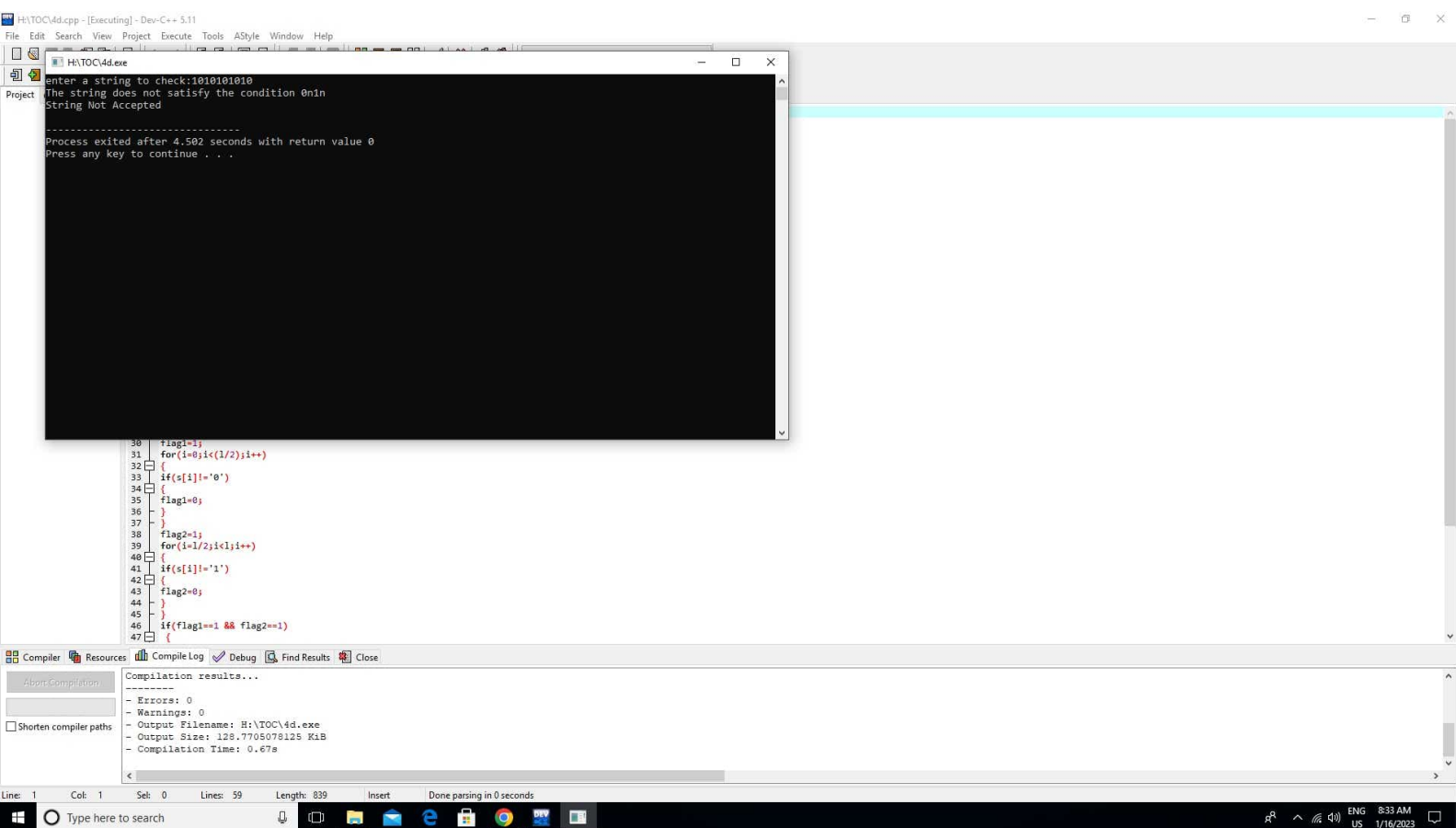
ENG 8:30 AM  
US 1/16/2023

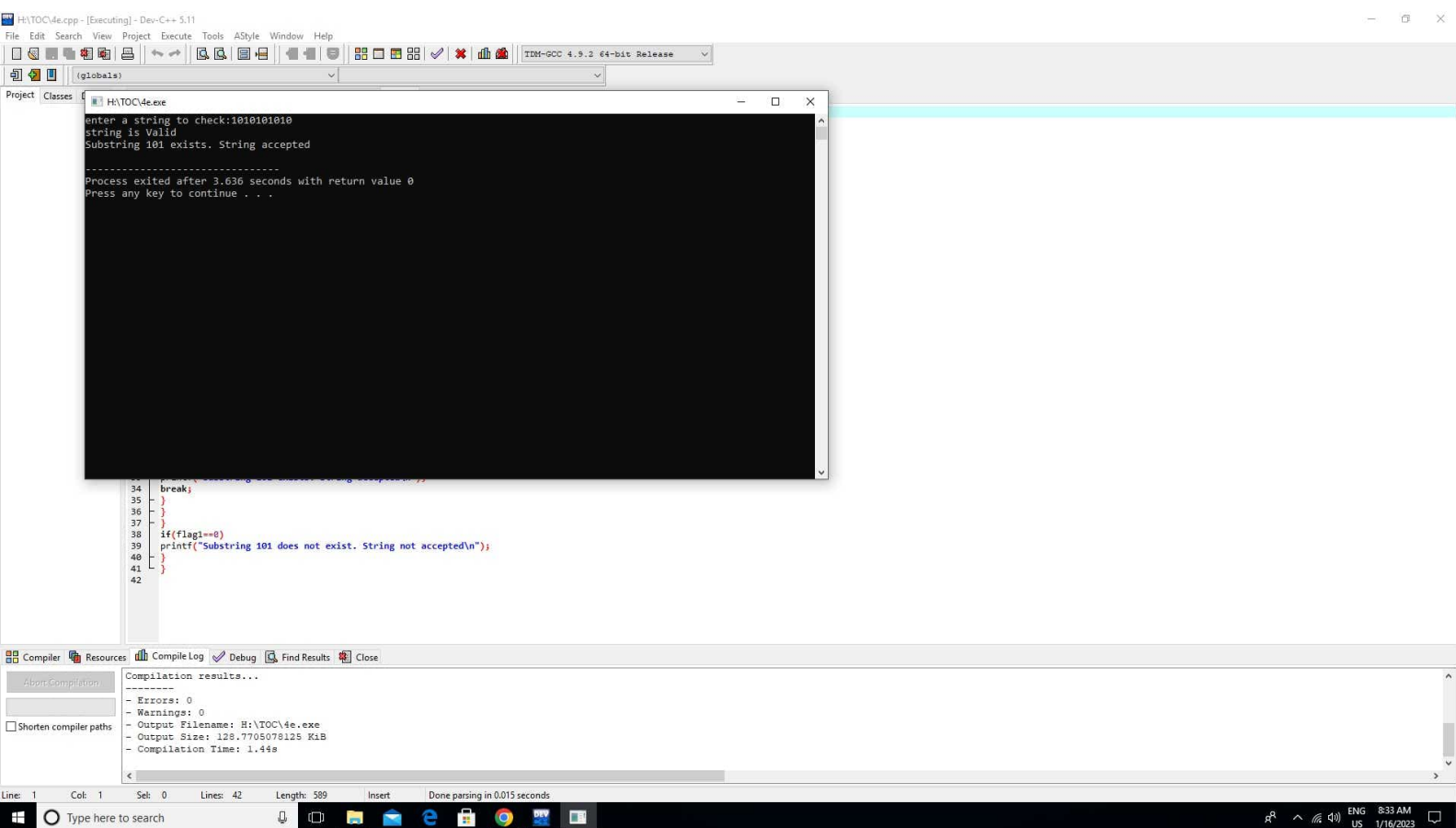




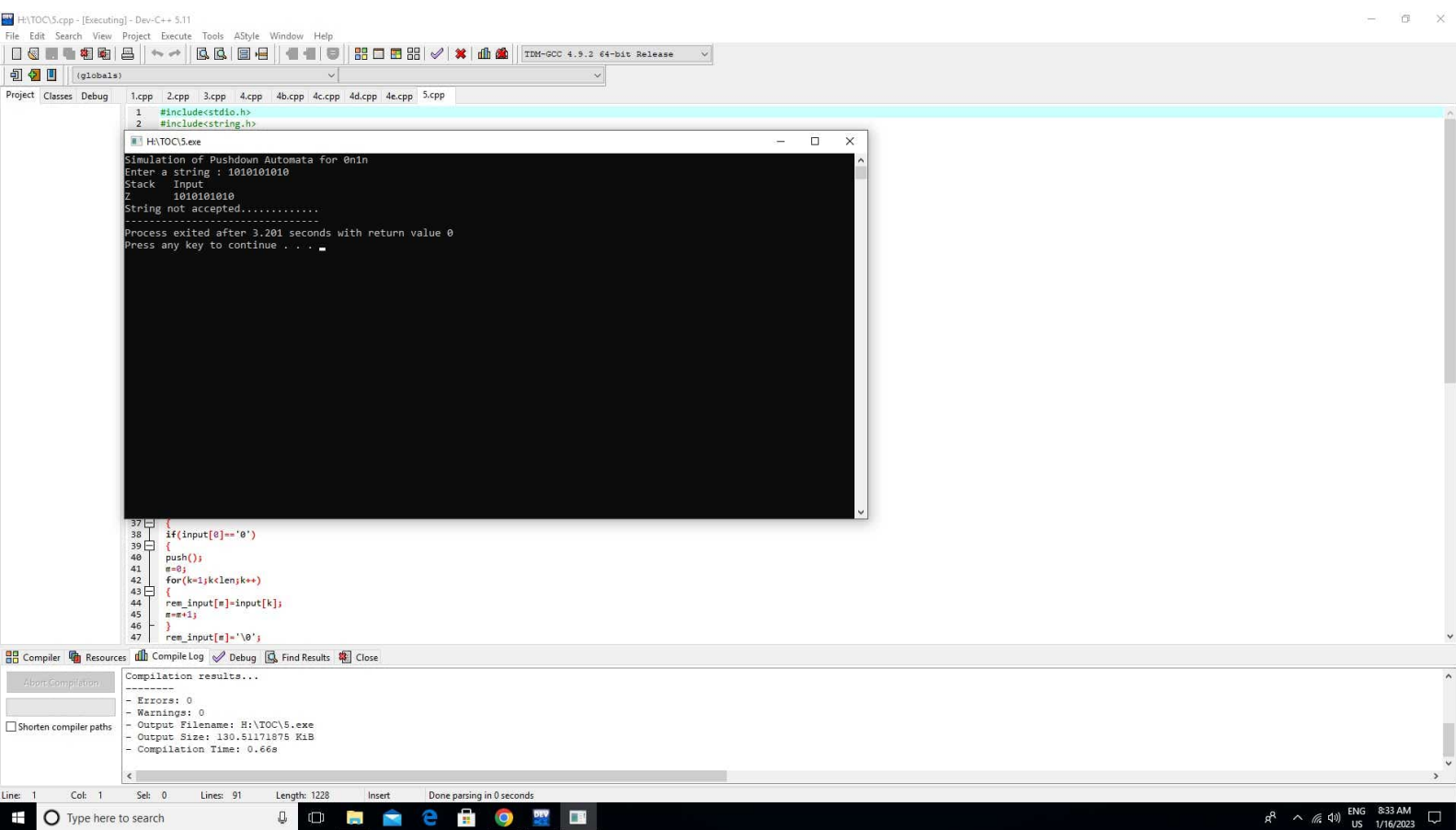


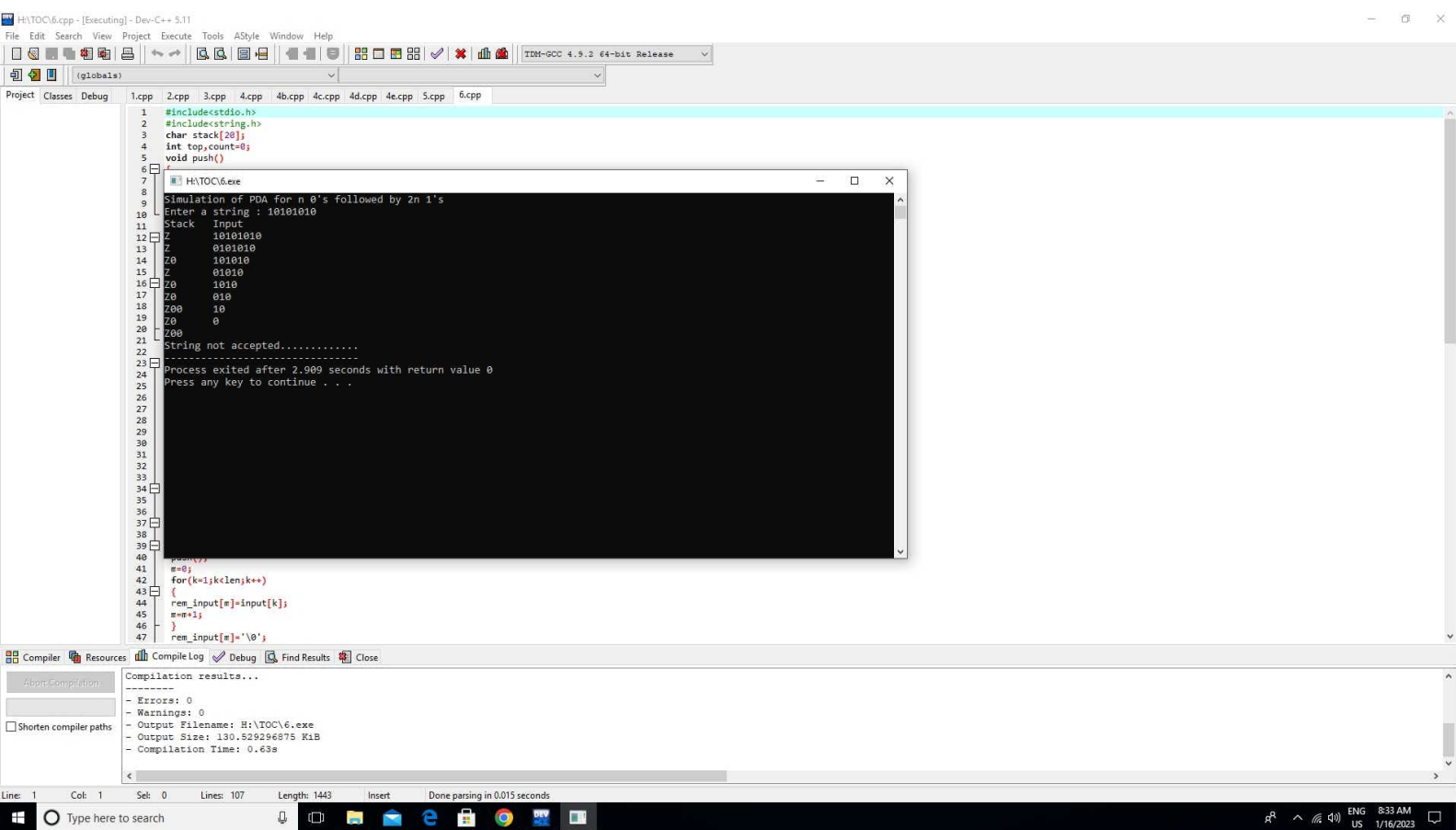












The screenshot shows a Dev-C++ IDE window titled "H:\TOC\7.cpp - [Executing] - Dev-C++ 5.11". The main window displays the output of a program titled "H:\TOC\7.exe". The program's purpose is to show how a Turing machine processes the string "0110101010". The output shows the string being processed character by character, with the state of the Turing machine (represented by a string of '0's and '1's) being updated at each step. The output ends with "Process exited after 3.148 seconds with return value 0" and "Press any key to continue . . .".

The source code is visible in the editor window below the output. It is a C++ program that simulates a Turing machine. The code uses a loop to process the input string "0110101010" character by character. For each character, it checks the current state of the Turing machine (represented by a string of '0's and '1's) and updates it based on the current character. The code uses a series of if-else statements to handle the different cases. The output is printed using the printf function.

```
20 else if(str[i]=='R')
21 {
22     i=i+1;
23 }
24 else if((str[i]=='1') && (flag1==0))
25 {
26     str[i] = '0';
27     printf("%s\n",str);
28     flag1=1;
29     i=i+1;
30 }
31 else if((str[i]=='1') && (flag1==1))
32 {
33     i=i+1;
34 }
35 else if(str[i]=='0')
36 {
37     i=i+1;
38 }
39 else if((str[i]=='2') && (flag2==0))
40 {
41     i=i+1;
42 }
43 else if(str[i]=='0')
44 {
45     i=i+1;
46 }
47 else if((str[i]=='2') && (flag2==1))
48 {
49     i=i+1;
50 }
```

The compilation results window shows the following information:

```
Compilation results...
-----
- Errors: 0
- Warnings: 0
- Output Filename: H:\TOC\7.exe
- Output Size: 129.2705079125 KiB
- Compilation Time: 0.66s
```

The status bar at the bottom of the IDE shows the following information:

```
Line: 1 Col: 1 Sek: 0 Lines: 69 Length: 888 Insert Done parsing in 0.016 seconds
```

The Windows taskbar at the bottom shows the following information:

```
ENG 8:34 AM 1/16/2023
```

The screenshot displays the Dev-C++ IDE interface. The top menu bar includes File, Edit, Search, View, Project, Execute, Tools, AStyle, Window, and Help. The toolbar contains icons for file operations, editing, and execution. The compiler is set to TDM-GCC 4.9.2 64-bit Release. The project is named H:\TOC\8.exe.

The output window shows the execution results of the program:

```
Pattern found at index 0
Pattern found at index 9
Pattern found at index 13
-----
Process exited after 0.09196 seconds with return value 0
Press any key to continue . . .
```

The source code window shows the following C++ code:

```
34 computeTF(pat, M, TF);
35 int i, state=0;
36 for (i = 0; i < N; i++)
37 {
38     state = TF[state][txt[i]];
39     if (state == M)
40         printf("\n Pattern found at index %d",
41             i-N+1);
42 }
43 }
44 int main()
45 {
46     char *txt = "AABAACAADAABAAABAA";
47     char *pat = "AABA";
```

The compiler output window shows the following messages:

```
Message
In function 'int main()':
[Warning] deprecated conversion from string constant to 'char*' [-Wwrite-strings]
[Warning] deprecated conversion from string constant to 'char*' [-Wwrite-strings]
```

The status bar at the bottom indicates the current line is 1, column is 1, and the file is H:\TOC\8.cpp. The total length of the file is 995 characters, and it was parsed in 0.015 seconds.



