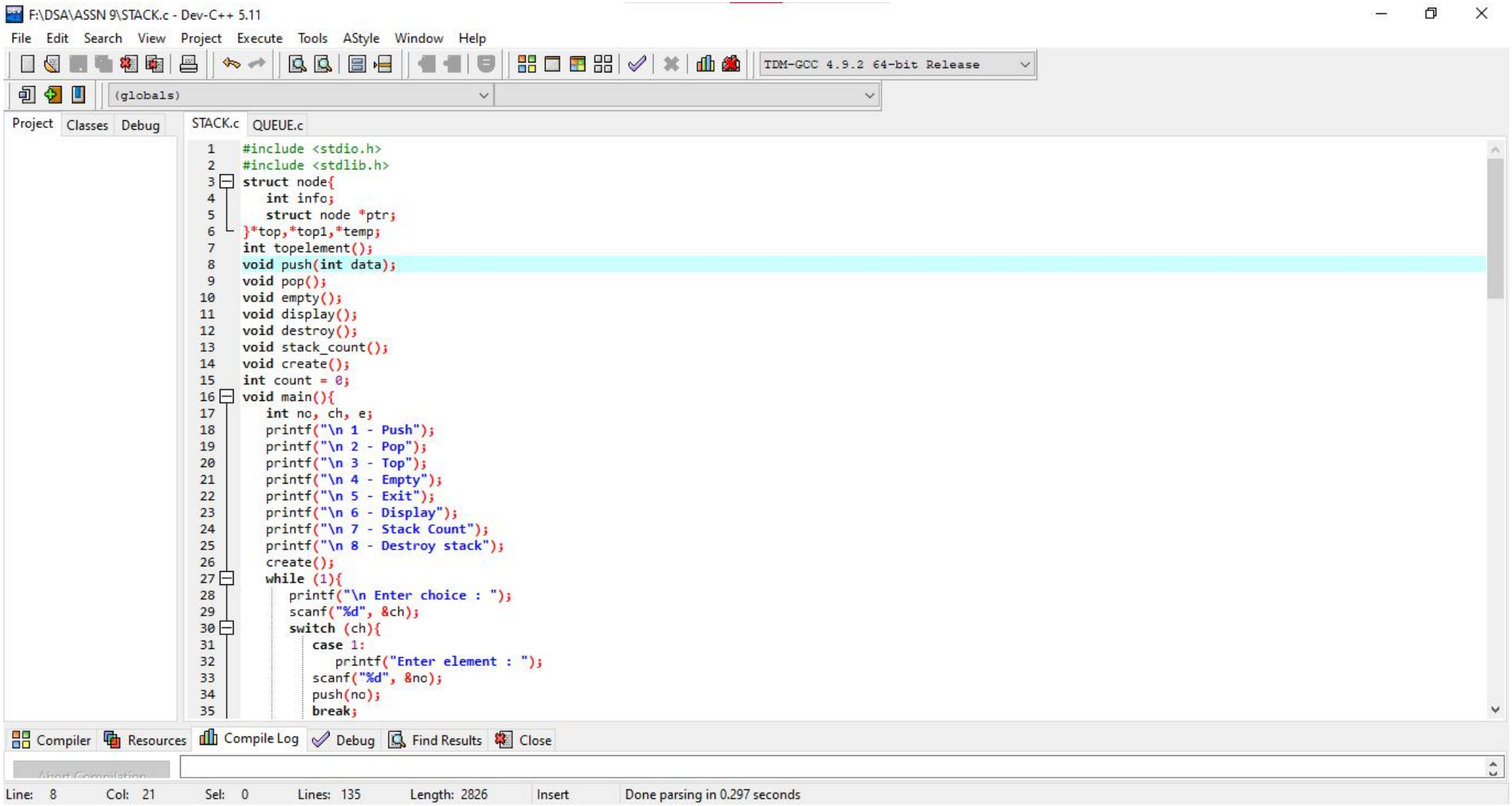
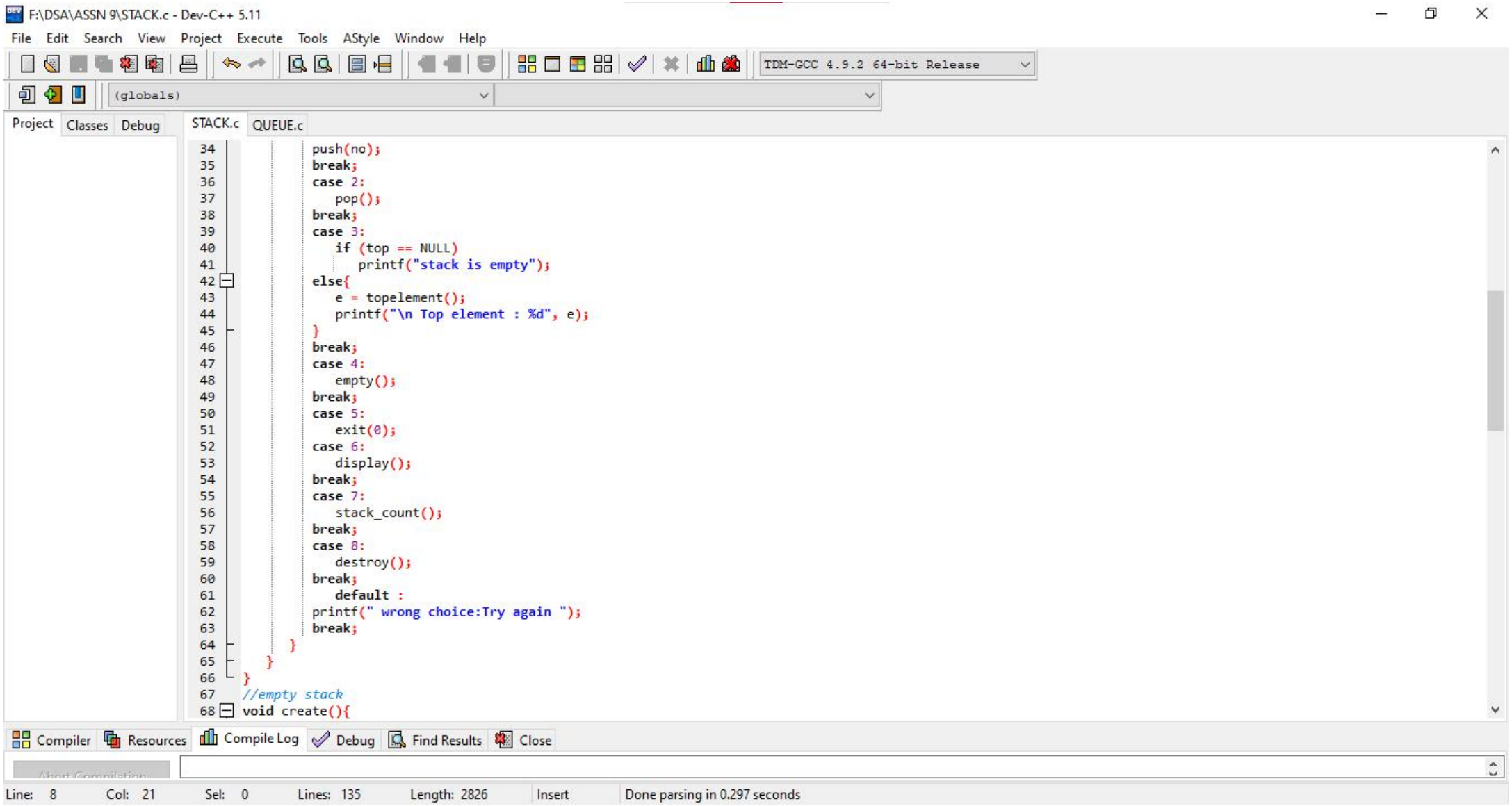
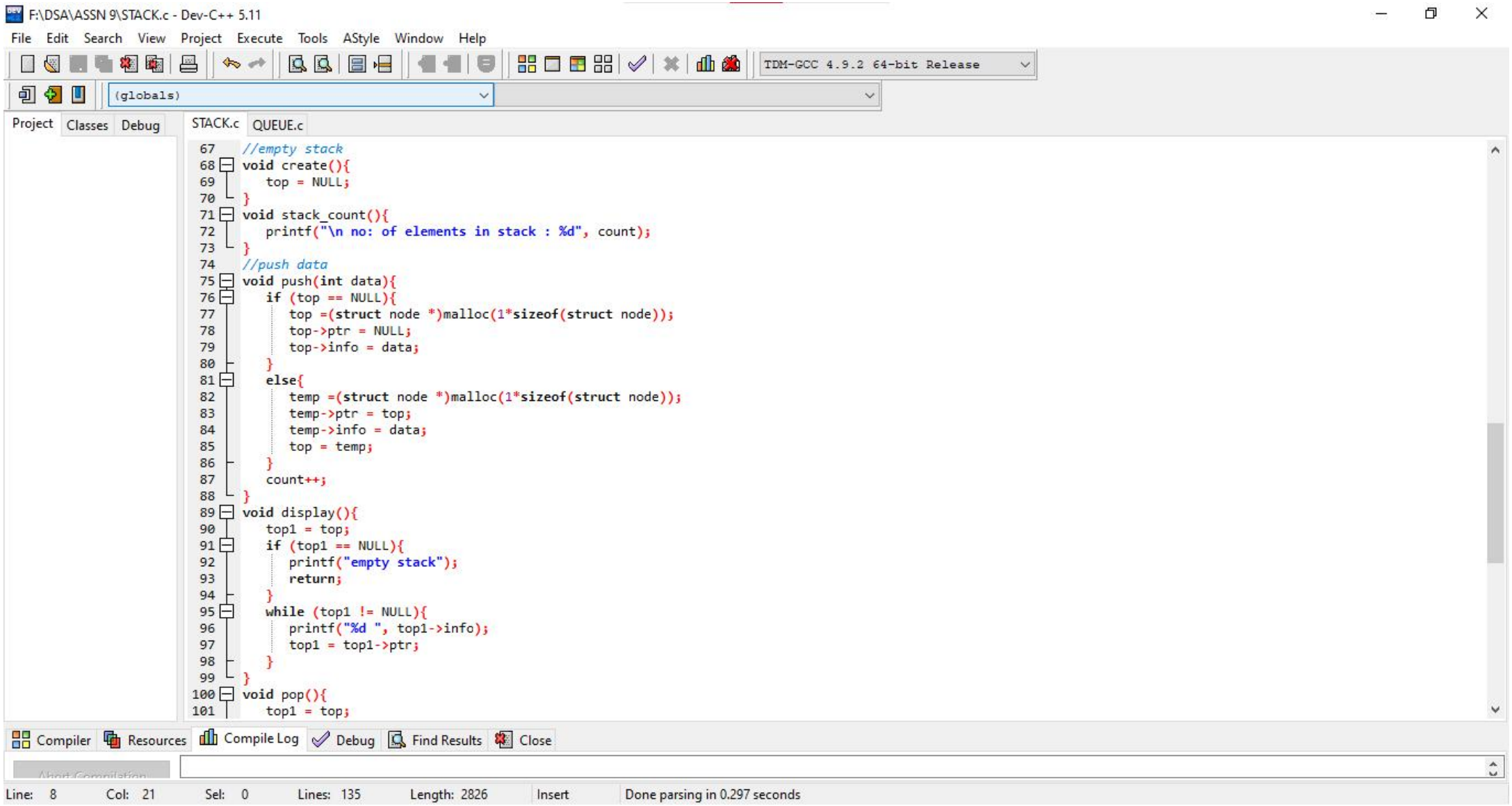
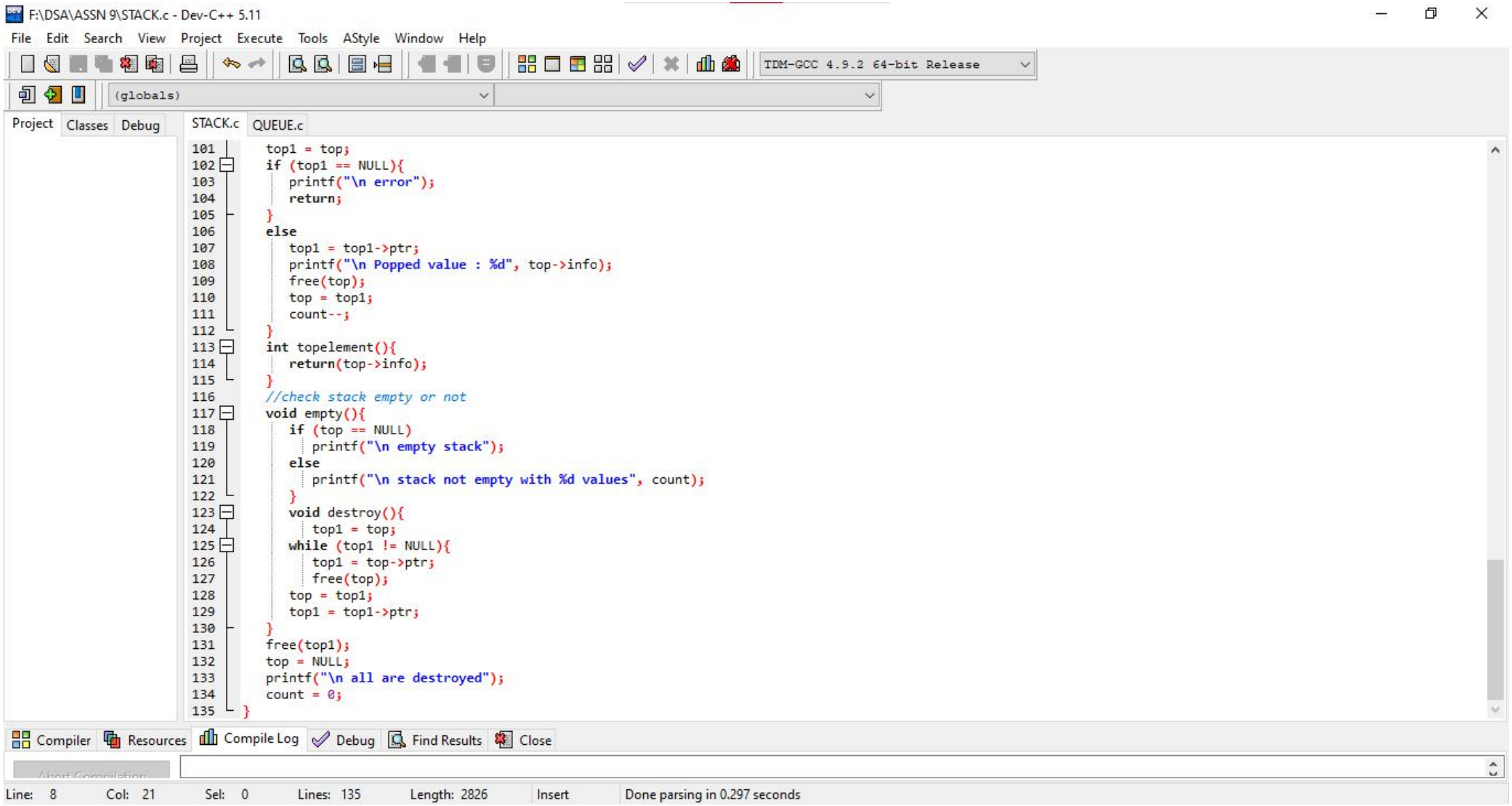

F:\DSA\ASSN 9\STACK.c - Dev-C++ 5.11
File Edit Search View Project Execute Tools AStyle Window Help
TDM-GCC 4.9.2 64-bit Release
(globals)
Project Classes Debug
STACK.c QUEUE.c
#include <stdio.h>
#include <stdlib.h>
struct node{
int info;
struct node *ptr;
}*top,*top1,*temp;
int topelement();
void push(int data);
void pop();
void empty();
void display();
void destroy();
void stack_count();
void create();
int count = 0;
void main(){
int no, ch, e;
printf("\n 1 - Push");
printf("\n 2 - Pop");
printf("\n 3 - Top");
printf("\n 4 - Empty");
printf("\n 5 - Exit");
printf("\n 6 - Display");
printf("\n 7 - Stack Count");
printf("\n 8 - Destroy stack");
create();
while (1){
printf("\n Enter choice : ");
scanf("%d", &ch);
switch (ch){
case 1:
printf("Enter element : ");
scanf("%d", &no);
push(no);
break;
Compiler Resources Compile Log Debug Find Results Close
Line: 8 Col: 21 Sel: 0 Lines: 135 Length: 2826 Insert Done parsing in 0.297 seconds


F:\DSA\ASSN 9\STACK.c - Dev-C++ 5.11
File Edit Search View Project Execute Tools AStyle Window Help
TDM-GCC 4.9.2 64-bit Release
(globals)
Project Classes Debug
STACK.c QUEUE.c
push(no);
break;
case 2:
pop();
break;
case 3:
if (top == NULL)
printf("stack is empty");
else{
e = topelement();
printf("\n Top element : %d", e);
}
break;
case 4:
empty();
break;
case 5:
exit(0);
case 6:
display();
break;
case 7:
stack_count();
break;
case 8:
destroy();
break;
default :
printf(" wrong choice:Try again ");
break;
}
}
}
//empty stack
void create(){
Compiler Resources Compile Log Debug Find Results Close
Line: 8 Col: 21 Sel: 0 Lines: 135 Length: 2826 Insert Done parsing in 0.297 seconds


F:\DSA\ASSN 9\STACK.c - Dev-C++ 5.11
File Edit Search View Project Execute Tools AStyle Window Help
TDM-GCC 4.9.2 64-bit Release
(globals)
Project Classes Debug
STACK.c QUEUE.c
67 //empty stack
68 void create(){
69 top = NULL;
70 }
71 void stack_count(){
72 printf("\n no: of elements in stack : %d", count);
73 }
74 //push data
75 void push(int data){
76 if (top == NULL){
77 top =(struct node *)malloc(1*sizeof(struct node));
78 top->ptr = NULL;
79 top->info = data;
80 }
81 else{
82 temp =(struct node *)malloc(1*sizeof(struct node));
83 temp->ptr = top;
84 temp->info = data;
85 top = temp;
86 }
87 count++;
88 }
89 void display(){
90 top1 = top;
91 if (top1 == NULL){
92 printf("empty stack");
93 return;
94 }
95 while (top1 != NULL){
96 printf("%d ", top1->info);
97 top1 = top1->ptr;
98 }
99 }
100 void pop(){
101 top1 = top;
Compiler Resources Compile Log Debug Find Results Close
Line: 8 Col: 21 Sel: 0 Lines: 135 Length: 2826 Insert Done parsing in 0.297 seconds


F:\DSA\ASSN 9\STACK.c - Dev-C++ 5.11
File Edit Search View Project Execute Tools AStyle Window Help
TDM-GCC 4.9.2 64-bit Release
(globals)
Project Classes Debug
STACK.c QUEUE.c
101 top1 = top;
102 if (top1 == NULL){
103 printf("\n error");
104 return;
105 }
106 else
107 top1 = top1->ptr;
108 printf("\n Popped value : %d", top->info);
109 free(top);
110 top = top1;
111 count--;
112 }
113 int topelement(){
114 return(top->info);
115 }
116 //check stack empty or not
117 void empty(){
118 if (top == NULL)
119 printf("\n empty stack");
120 else
121 printf("\n stack not empty with %d values", count);
122 }
123 void destroy(){
124 top1 = top;
125 while (top1 != NULL){
126 top1 = top->ptr;
127 free(top);
128 top = top1;
129 top1 = top1->ptr;
130 }
131 free(top1);
132 top = NULL;
133 printf("\n all are destroyed");
134 count = 0;
135 }
Compiler Resources Compile Log Debug Find Results Close
Line: 8 Col: 21 Sel: 0 Lines: 135 Length: 2826 Insert Done parsing in 0.297 seconds

F:\DSA\ASSN 9\STACK.exe

```
 1 - Push
 2 - Pop
 3 - Top
 4 - Empty
 5 - Exit
 6 - Display
 7 - Stack Count
 8 - Destroy stack
 Enter choice : 1
Enter element : 23

 Enter choice : 1
Enter element : 45

 Enter choice : 1
Enter element : 56

 Enter choice : 2

 Popped value : 56
 Enter choice : 6
45 23
 Enter choice : 8

 all are destroyed
 Enter choice : 6
empty stack
 Enter choice : 5

--------------------------------
Process exited after 300.9 seconds with return value 0
Press any key to continue . . .
```

F:\DSA\ASSN 9\QUEUE.c - Dev-C++ 5.11

File Edit Search View Project Execute Tools AStyle Window Help

TDM-GCC 4.9.2 64-bit Release

(globals)

Project Classes Debug

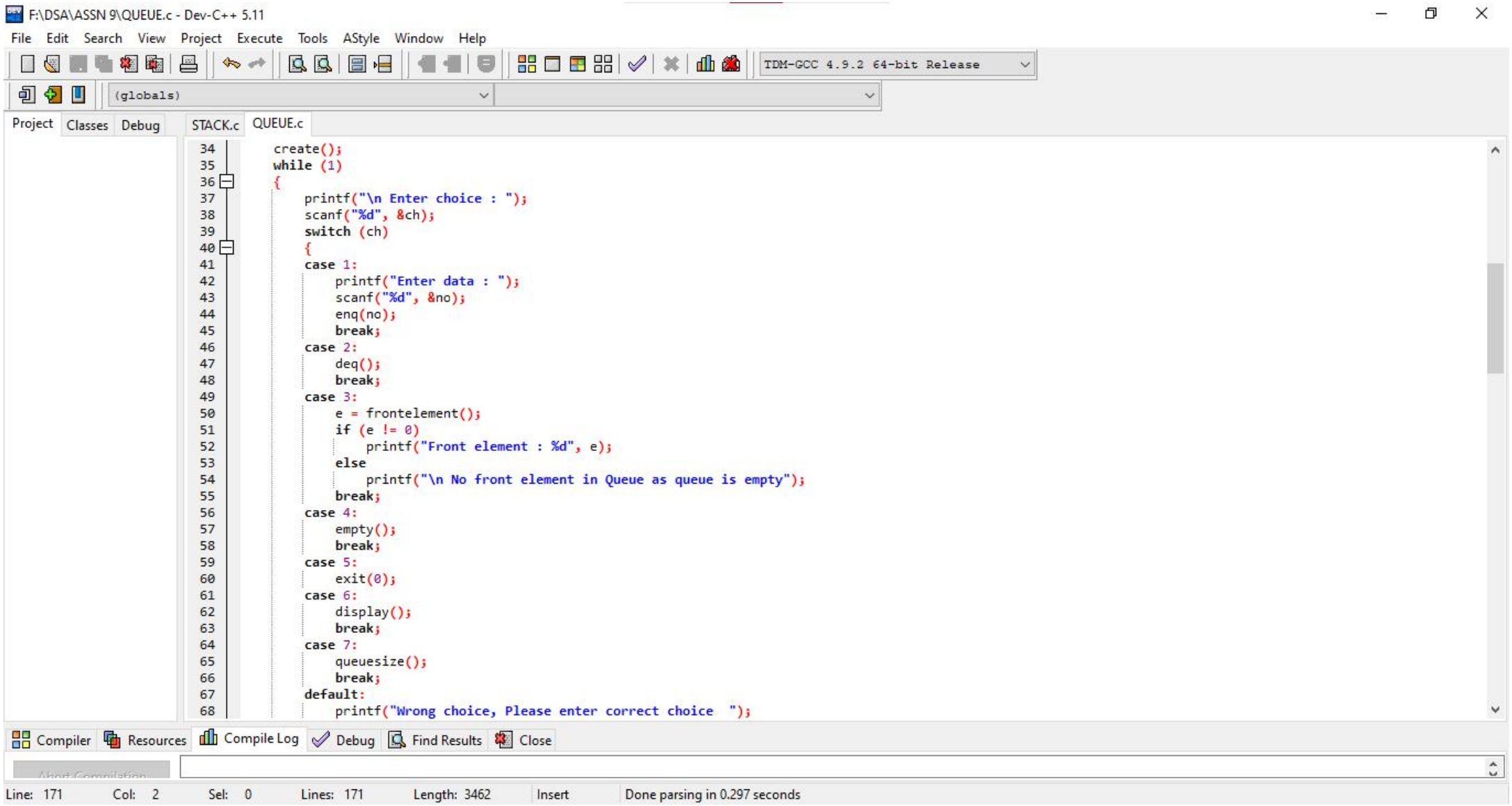
STACK.c QUEUE.c

```c
/*
 * C Program to Implement Queue Data Structure using Linked List
 */
#include <stdio.h>
#include <stdlib.h>

struct node
{
    int info;
    struct node *ptr;
}*front,*rear,*temp,*front1;

int frontelement();
void enq(int data);
void deq();
void empty();
void display();
void create();
void queuesize();

int count = 0;

void main()
{
    int no, ch, e;

    printf("\n 1 - Enque");
    printf("\n 2 - Deque");
    printf("\n 3 - Front element");
    printf("\n 4 - Empty");
    printf("\n 5 - Exit");
    printf("\n 6 - Display");
    printf("\n 7 - Queue size");
    create();
    while (1)
```

Compiler Resources Compile Log Debug Find Results Close

Abort Compilation

Line: 171 Col: 2 Sel: 0 Lines: 171 Length: 3462 Insert Done parsing in 0.297 seconds


F:\DSA\ASSN 9\QUEUE.c - Dev-C++ 5.11
File Edit Search View Project Execute Tools AStyle Window Help
TDM-GCC 4.9.2 64-bit Release
(globals)
Project Classes Debug
STACK.c QUEUE.c
34 create();
35 while (1)
36 {
37 printf("\n Enter choice : ");
38 scanf("%d", &ch);
39 switch (ch)
40 {
41 case 1:
42 printf("Enter data : ");
43 scanf("%d", &no);
44 enq(no);
45 break;
46 case 2:
47 deq();
48 break;
49 case 3:
50 e = frontelement();
51 if (e != 0)
52 printf("Front element : %d", e);
53 else
54 printf("\n No front element in Queue as queue is empty");
55 break;
56 case 4:
57 empty();
58 break;
59 case 5:
60 exit(0);
61 case 6:
62 display();
63 break;
64 case 7:
65 queuesize();
66 break;
67 default:
68 printf("Wrong choice, Please enter correct choice ");
Compiler Resources Compile Log Debug Find Results Close
Line: 171 Col: 2 Sel: 0 Lines: 171 Length: 3462 Insert Done parsing in 0.297 seconds

F:\DSA\ASSN 9\QUEUE.c - Dev-C++ 5.11

File Edit Search View Project Execute Tools AStyle Window Help

TDM-GCC 4.9.2 64-bit Release

(globals)

Project Classes Debug

STACK.c QUEUE.c

```
67          default:
68              printf("Wrong choice, Please enter correct choice  ");
69              break;
70          }
71      }
72  }
73
74  /* Create an empty queue */
75  void create()
76  {
77      front = rear = NULL;
78  }
79
80  /* Returns queue size */
81  void queuesize()
82  {
83      printf("\n Queue size : %d", count);
84  }
85
86  /* Enqueing the queue */
87  void enq(int data)
88  {
89      if (rear == NULL)
90      {
91          rear = (struct node *)malloc(1*sizeof(struct node));
92          rear->ptr = NULL;
93          rear->info = data;
94          front = rear;
95      }
96      else
97      {
98          temp=(struct node *)malloc(1*sizeof(struct node));
99          rear->ptr = temp;
100         temp->info = data;
101         temp->ptr = NULL;
```

Compiler Resources Compile Log Debug Find Results Close

Abort Compilation

Line: 171 Col: 2 Sel: 0 Lines: 171 Length: 3462 Insert Done parsing in 0.297 seconds

F:\DSA\ASSN 9\QUEUE.c - Dev-C++ 5.11

File Edit Search View Project Execute Tools AStyle Window Help

TDM-GCC 4.9.2 64-bit Release

(globals)

Project Classes Debug

STACK.c QUEUE.c

```
100         temp->info = data;
101         temp->ptr = NULL;
102
103         rear = temp;
104     }
105     count++;
106 }
107
108 /* Displaying the queue elements */
109 void display()
110 {
111     front1 = front;
112
113     if ((front1 == NULL) && (rear == NULL))
114     {
115         printf("Queue is empty");
116         return;
117     }
118     while (front1 != rear)
119     {
120         printf("%d ", front1->info);
121         front1 = front1->ptr;
122     }
123     if (front1 == rear)
124         printf("%d", front1->info);
125 }
126
127 /* Dequeing the queue */
128 void deq()
129 {
130     front1 = front;
131
132     if (front1 == NULL)
133     {
134         printf("\n Error: Trying to display elements from empty queue");
```

Compiler Resources Compile Log Debug Find Results Close

Abort Compilation

Line: 171 Col: 2 Sel: 0 Lines: 171 Length: 3462 Insert Done parsing in 0.297 seconds

F:\DSA\ASSN 9\QUEUE.c - Dev-C++ 5.11

File Edit Search View Project Execute Tools AStyle Window Help

TDM-GCC 4.9.2 64-bit Release

(globals)

Project Classes Debug

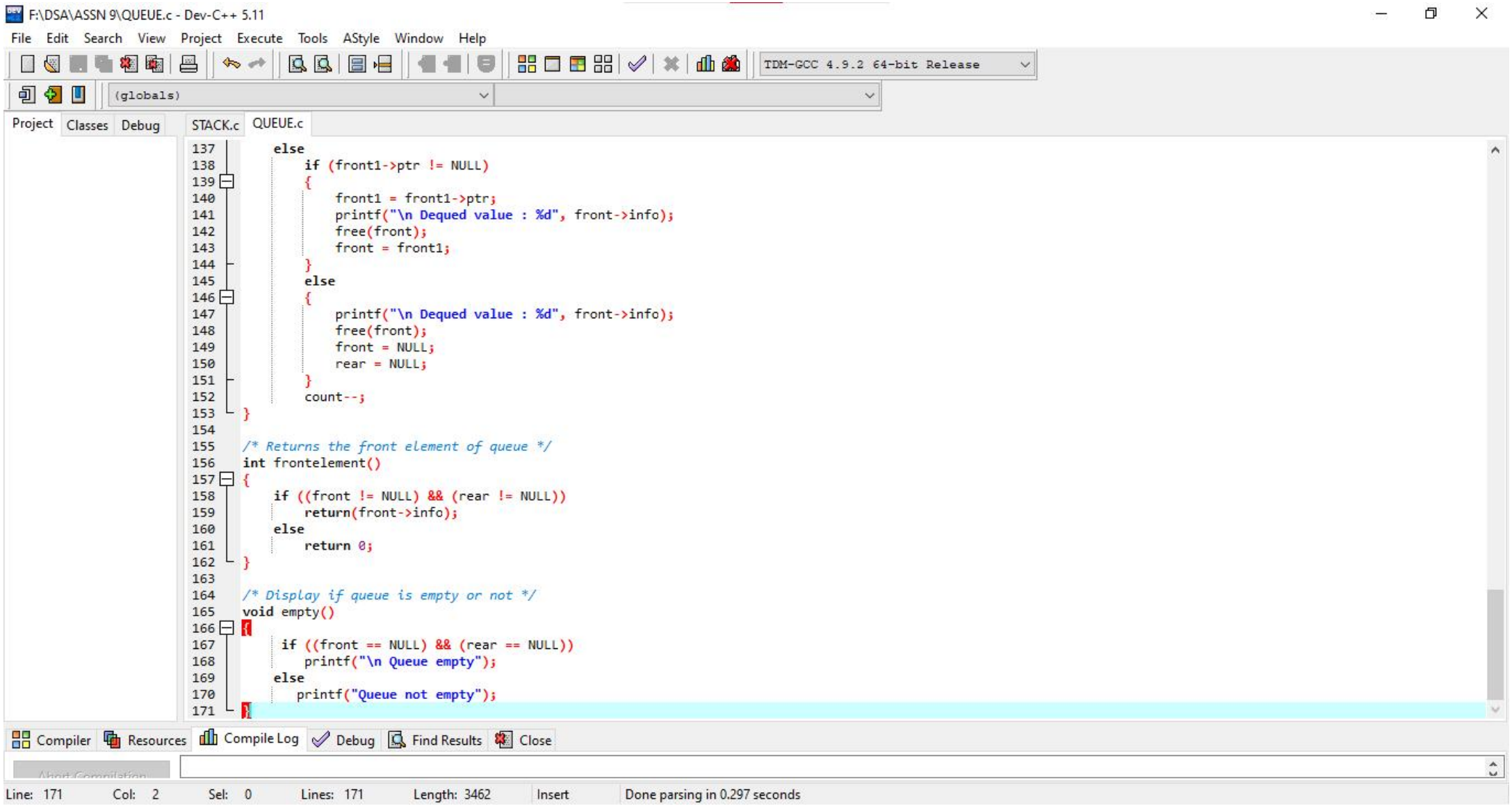
STACK.c QUEUE.c

```
134         printf("\n Error: Trying to display elements from empty queue");
135         return;
136     }
137     else
138         if (front1->ptr != NULL)
139         {
140             front1 = front1->ptr;
141             printf("\n Dequed value : %d", front->info);
142             free(front);
143             front = front1;
144         }
145         else
146         {
147             printf("\n Dequed value : %d", front->info);
148             free(front);
149             front = NULL;
150             rear = NULL;
151         }
152         count--;
153 }
154
155 /* Returns the front element of queue */
156 int frontelement()
157 {
158     if ((front != NULL) && (rear != NULL))
159         return(front->info);
160     else
161         return 0;
162 }
163
164 /* Display if queue is empty or not */
165 void empty()
166 {
167     if ((front == NULL) && (rear == NULL))
168         printf("\n Queue empty");
```

Compiler Resources Compile Log Debug Find Results Close

Abort Compilation

Line: 171 Col: 2 Sel: 0 Lines: 171 Length: 3462 Insert Done parsing in 0.297 seconds


F:\DSA\ASSN 9\QUEUE.c - Dev-C++ 5.11
File Edit Search View Project Execute Tools AStyle Window Help
TDM-GCC 4.9.2 64-bit Release
(globals)
Project Classes Debug
STACK.c QUEUE.c
137 else
138 if (front1->ptr != NULL)
139 {
140 front1 = front1->ptr;
141 printf("\n Dequed value : %d", front->info);
142 free(front);
143 front = front1;
144 }
145 else
146 {
147 printf("\n Dequed value : %d", front->info);
148 free(front);
149 front = NULL;
150 rear = NULL;
151 }
152 count--;
153 }
154
155 /* Returns the front element of queue */
156 int frontelement()
157 {
158 if ((front != NULL) && (rear != NULL))
159 return(front->info);
160 else
161 return 0;
162 }
163
164 /* Display if queue is empty or not */
165 void empty()
166 {
167 if ((front == NULL) && (rear == NULL))
168 printf("\n Queue empty");
169 else
170 printf("Queue not empty");
171 }
Compiler Resources Compile Log Debug Find Results Close
Line: 171 Col: 2 Sel: 0 Lines: 171 Length: 3462 Insert Done parsing in 0.297 seconds

F:\DSA\ASSN 9\QUEUE.exe

```
 1 - Enque
 2 - Deque
 3 - Front element
 4 - Empty
 5 - Exit
 6 - Display
 7 - Queue size
 Enter choice : 1
Enter data : 14

 Enter choice : 1
Enter data : 85

 Enter choice : 1
Enter data : 38

 Enter choice : 3
Front element : 14
 Enter choice : 6
14 85 38
 Enter choice : 7

 Queue size : 3
 Enter choice : 2

 Dequed value : 14
 Enter choice : 6
85 38
 Enter choice : 7

 Queue size : 2
 Enter choice : 4
Queue not empty
 Enter choice : 5

--------------------------------
Process exited after 150.4 seconds with return value 0
Press any key to continue . . .
```