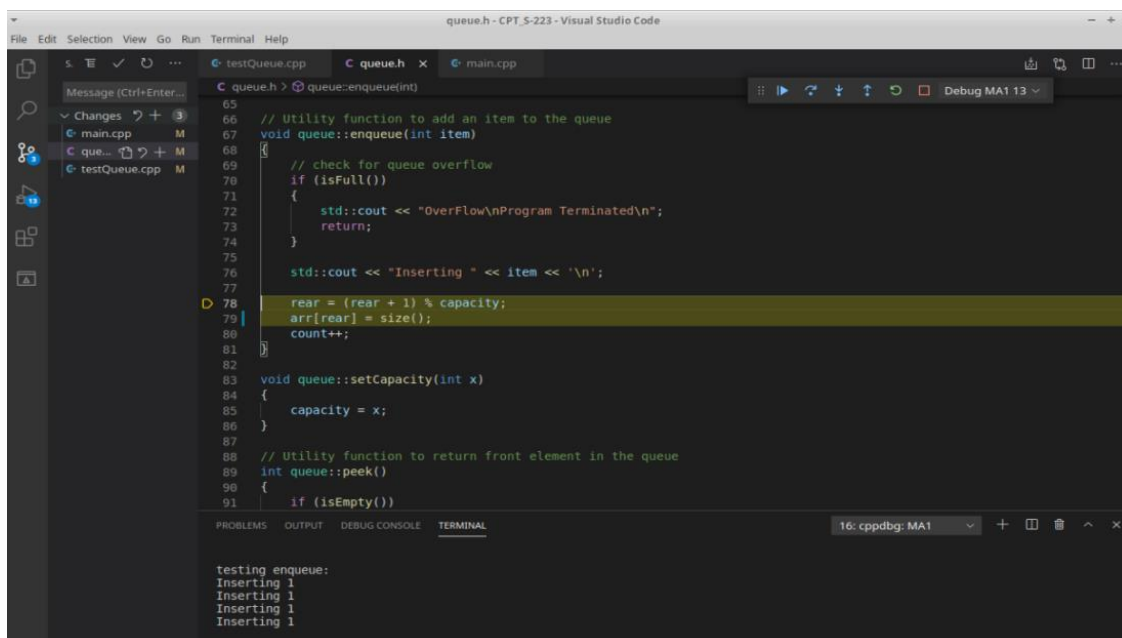


Syntax errors:

```
j@j-VirtualBox:~/cs/CPT_S-223/build$ make
Scanning dependencies of target MA1
[ 50%] Building CXX object CMakeFiles/MA1.dir/main.cpp.o
/home/j/c/cpt_s-223/main.cpp:12:1: error: new types may not be defined in a return type
12 | class queue
    | ^~~~~~
/home/j/c/cpt_s-223/main.cpp:12:1: note: (perhaps a semicolon is missing after the definition of 'queue')
/home/j/c/cpt_s-223/main.cpp:33:22: error: return type specification for constructor invalid
33 | queue::queue(int size)
    | ^~~~~~
/home/j/c/cpt_s-223/main.cpp: In member function 'void queue::dequeue()':
/home/j/c/cpt_s-223/main.cpp:59:24: error: invalid operands of types 'const char [10]' and 'int' to binary 'operator<<'
59 |     cout << "Removing " << arr[front] << '\n';
    |                      ^~   ^~~~~~
    |                      |    |
    |          const char [10]  int
/home/j/c/cpt_s-223/main.cpp: In member function 'int queue::peek()':
/home/j/c/cpt_s-223/main.cpp:88:16: error: 'numeric_limits' was not declared in this scope
88 |     return numeric_limits<int>::min();
    |            ^~~~~~
/home/j/c/cpt_s-223/main.cpp:88:31: error: expected primary-expression before 'int'
88 |     return numeric_limits<int>::min();
    |                               ^
/home/j/c/cpt_s-223/main.cpp:88:31: error: expected ';' before 'int'
88 |     return numeric_limits<int>::min();
    |                               ^
/home/j/c/cpt_s-223/main.cpp:88:34: error: expected unqualified-id before '>' token
88 |     return numeric_limits<int>::min();
    |                               ^
/home/j/c/cpt_s-223/main.cpp: In member function 'bool queue::isFull()':
/home/j/c/cpt_s-223/main.cpp:108:24: error: lvalue required as left operand of assignment
108 |     return (size()-1 = capacity);
    |                   ^~
make[2]: *** [CMakeFiles/MA1.dir/build.make:63: CMakeFiles/MA1.dir/main.cpp.o] Error 1
make[1]: *** [CMakeFiles/Makefile2:76: CMakeFiles/MA1.dir/all] Error 2
make: *** [Makefile:84: all] Error 2
j@j-VirtualBox:~/cs/CPT_S-223/build$
```

Debugging: I used VSCode's debugger and used it to go line by line from my test::enqueue function. As I followed the program into the enqueue function, where I realized that it was setting the back of the array to size(), rather than item.



The screenshot shows the Visual Studio Code editor with the file `queue.h` open. The `enqueue` function is highlighted, showing the line `arr[rear] = size();` which is the source of the error. The debug console at the bottom shows the output of the program, which is "Inserting 1" repeated four times, indicating that the enqueue function is being called multiple times.

```
queue.h - CPT_S-223 - Visual Studio Code
File Edit Selection View Go Run Terminal Help
testQueue.cpp queue.h x main.cpp
Message (Ctrl+Enter)
Changes
main.cpp M
queue.h M
testQueue.cpp M
queue.h > queue::enqueue(int)
65 // Utility function to add an item to the queue
66 void queue::enqueue(int item)
67 {
68 // check for queue overflow
69 if (isFull())
70 {
71     std::cout << "OverFlow\nProgram Terminated\n";
72     return;
73 }
74
75 std::cout << "Inserting " << item << '\n';
76
77 rear = (rear + 1) % capacity;
78 arr[rear] = size();
79 count++;
80 }
81
82 void queue::setCapacity(int x)
83 {
84     capacity = x;
85 }
86
87 // Utility function to return front element in the queue
88 int queue::peek()
89 {
90     if (isEmpty())
91
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL
16: cppdbg: MA1
testing enqueue:
Inserting 1
Inserting 1
Inserting 1
Inserting 1

