

# **Debugger Writeup #2**

## **CS 202: Programming Systems**

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### **1. Effectiveness of the debugger**

The debugger used to create the program #2 was the gdb running in a Linux machine. It was capable to show me my mistakes, which were segmentation faults in general, in the specific point of my code. Moreover, the debugger was able to show the content of the variables or functions that were having this segmentation faults. Therefore, with that I could see where the problem was occurring and how I could fix that.

### **2. Problems it helped you solve**

In the beginner of the program construction, I needed to know how I could use a graph node class instead of a graph node structure and a vertex class instead of a vertex structure. So, I created the vertex class and the graph node class using the same approach as the program #1, but I was having problem that took me a big time each time. I was trying to compile and I was receiving the following error:

Unknow type name “vertex”

It was happening because the class vertex was declared first than the graph node, but if I tried to declare the graph node first I have had the same problem. With the help of the debugger, I could see that I would have to do a forward declaration.

Another problem, that the debugger helped me was with my adjacent list. In the beginner, I was using a counter auxiliary variable to see the location of each path in my graph list, but it was printing different values that I have set in an example. With the debugger I could see that the auxiliary variable was going to forward and trying to access a location that was bigger than my graph list size. Therefore, if I tried to access that I would just have garbage to display.

### **3. Discover how it could be used to enhance the programming experience**

As I said in the last answer, the debugger helped me find an away to solve the display issues and how I could create the classes of my data structure.

**4. Features that you would like to learn about so that you could use them the next time you program**

Again a graphic user interface would be good for the programmer to see exactly what is happening as well as how implement breakpoints in the program.