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| Unix debuggers #1 Design write up |
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| During the writting of my program I used two Unix debugging tools. I |
| used GDB and Valgrind. I always compile my program with debugging |
| information `gcc -g` to make these debuggers more effective. |
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| In this program the majority of my errors I had were segmentation fault. |
| Most of these errors were easy to find when I used GDB. Usually, I would run |
| my program in GDB. The program would crash. I would backtrace. Look |
| and the code and fix the simple error which I found. |
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| More complex errors I would need to use GDB to step though the program |
| to ensure that the sequence of events that I thought was happening was |
| actually happening. Ideally, I was able to do a backtrace to find the |
| fist function that was called before the program faulted but Sometimes |
| I need to start at main. |
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| Most of my complex errors was from my flexible array tree. I needed to |
| use gdb to step through the code which added data to the array as well |
| as the code that allowed the flexible array iterator over the flexible |
| array. GDB has a bunch of nice features that makes this process less |
| painful like condition break points, automatic display options, and nurses |
| graphical code view. |
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| I used valgrind usually only after my program would run with out |
| crashing. Valgrind would tell me which data was being allocted and not |
| freed. It also indicated miss-matched delete and delete[] operators. |
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| If my program was trying to free memory twice I would use |
| valgrind to find when this memory was being created. I would then jump |
| back into gdb and step though the code that I thought would be |
| effected by the allocation and the deallocation. |
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| Although I it is not classified as a Unix debugger I use GCC to debug |
| my program. I use it to find syntax problems. Also if you turn on |
| debugging mode and warning gcc will also suggest improvements to areas |
| of your code that could cause problems. |