

1) The only change that was made, was that I included an if statement that would break out of the for loop in lookup.c::450 when the “dp” variable was equal to nullptr. I made this because otherwise, the lines of code afterwards would be dereferencing the nullptr, which is what was causing the segfault to occur. The first thing I did was run the program normally in gdb to get it to tell me what line the segfault was occurring at. I set a watch point on the s1 and dp variables in the lookup method, and found when their values were changing. I was able to figure out that dp was setting itself to null after a few calls of the method, and in order to stop the loop just inserted the if (dp == 0) { break; }. The most useful commands were watch, p, list, bt

2) Changes to my_watch:

Old value = 0
New value = 2

Old value = 2
New value = 248

Old value = 248
New value = 228

Old value = 228
New value = 208

Old value = 208
New value = 188

Old value = 188
New value = 168

Old value = 168
New value = 169

Old value = 169
New value = 149

Old value = 149
New value = 129

Old value = 129
New value = 180

Old value = 180
New value = 160

Old value = 160
New value = 140