Deliverable: Documentation

Link to README_Cont

The information in this README is stated here as well.
Link to README:
https://github.com/bferro373/ECE49595-OSS/blob/dev/README_Cont.md

Developer Experience Report

Cutter is a very powerful, very large tool. Working within the codebase seems complicated on the surface, but it is easy to pick up and learn. Cutter and Rizin provide unique challenges for a software engineer to contribute to, allowing us to apply our skills in an advanced way, as well as acquire new skills to further our career. The installation and build process is well documented and simple, providing for a seamless experience to begin engineering solutions to the issues one wishes to solve. The user guides and documentation for Cutter is easy to access, easy to navigate, and very thorough in how to use and contribute to Cutter.

The developers are very knowledgeable and respond in a reasonable amount of time. Their recommendations are thorough and they make themselves available to discuss solutions for their product as well. Their contribution guidelines are well written and give clear expectations for contributions made to Cutter. While cutter's community hasn't been as active as in the past as far as solving issues and providing contributions, there is still a reservoir of information to pull from and chat channels to discuss solutions within the community.

Overall, Cutter is a powerful reverse-engineering application that is constantly seeking to improve both for its users and developers. It is a great application to provide contributions to due to the strong developer and community support, the easy to access informative documentation, and the unique challenges to solve.

Issue Documentation

Issue 1: Allow adding flags from hexdump

Link to Issue: https://github.com/rizinorg/cutter/issues/2932

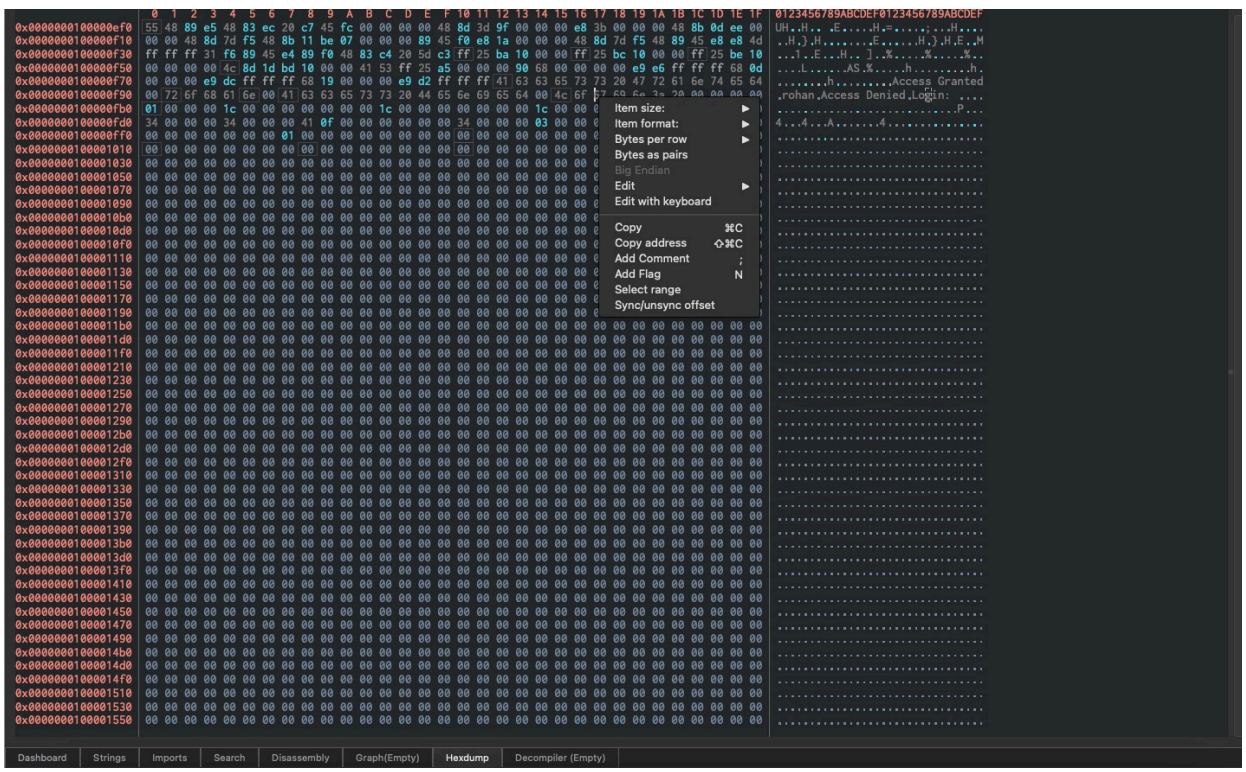
For this issue, we were tasked with adding a feature in the hexdump view that allows flags to be added into the hexdump view.

This is done by right clicking or pressing the keyboard shortcut N on the line you wish to add a flag to, entering a valid flag name, then confirming that action.

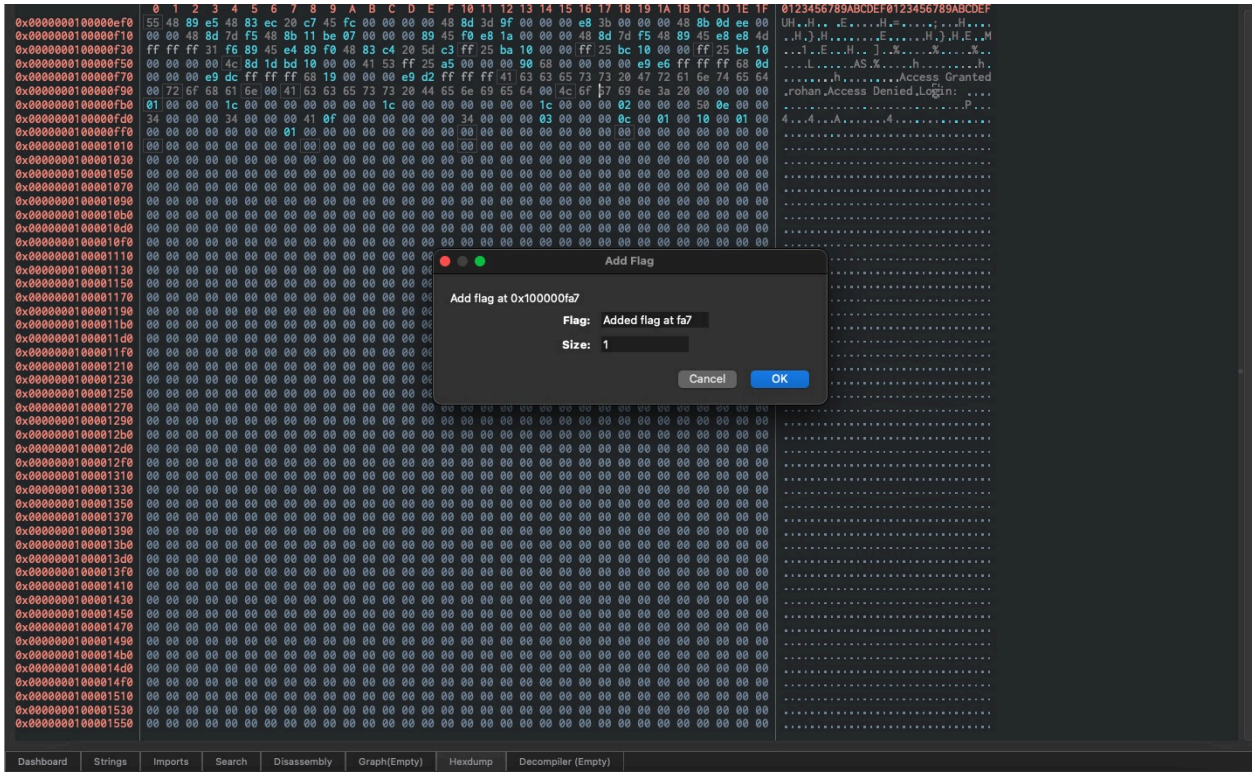
The flags added into the hexdump view are synchronized with the disassembly view.

Screenshots for issue 1:

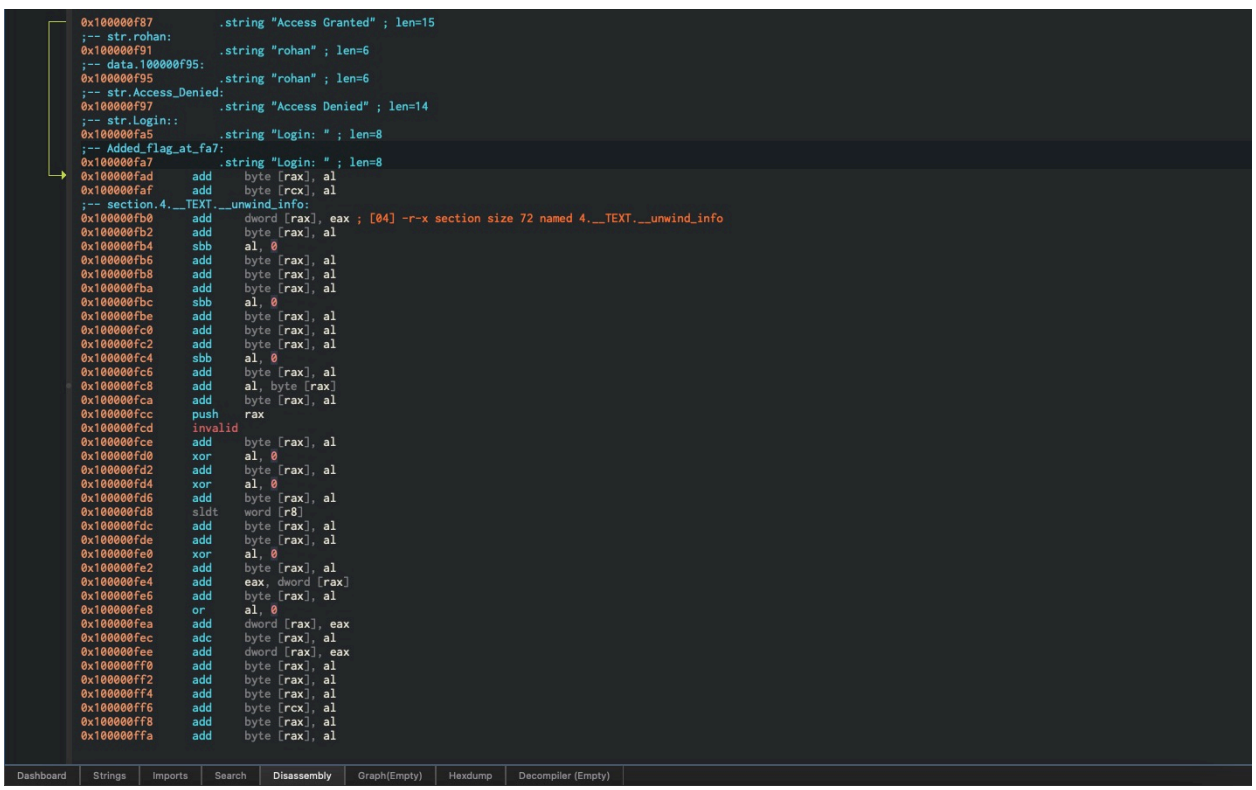
Right Click shortcut for adding a new flag:



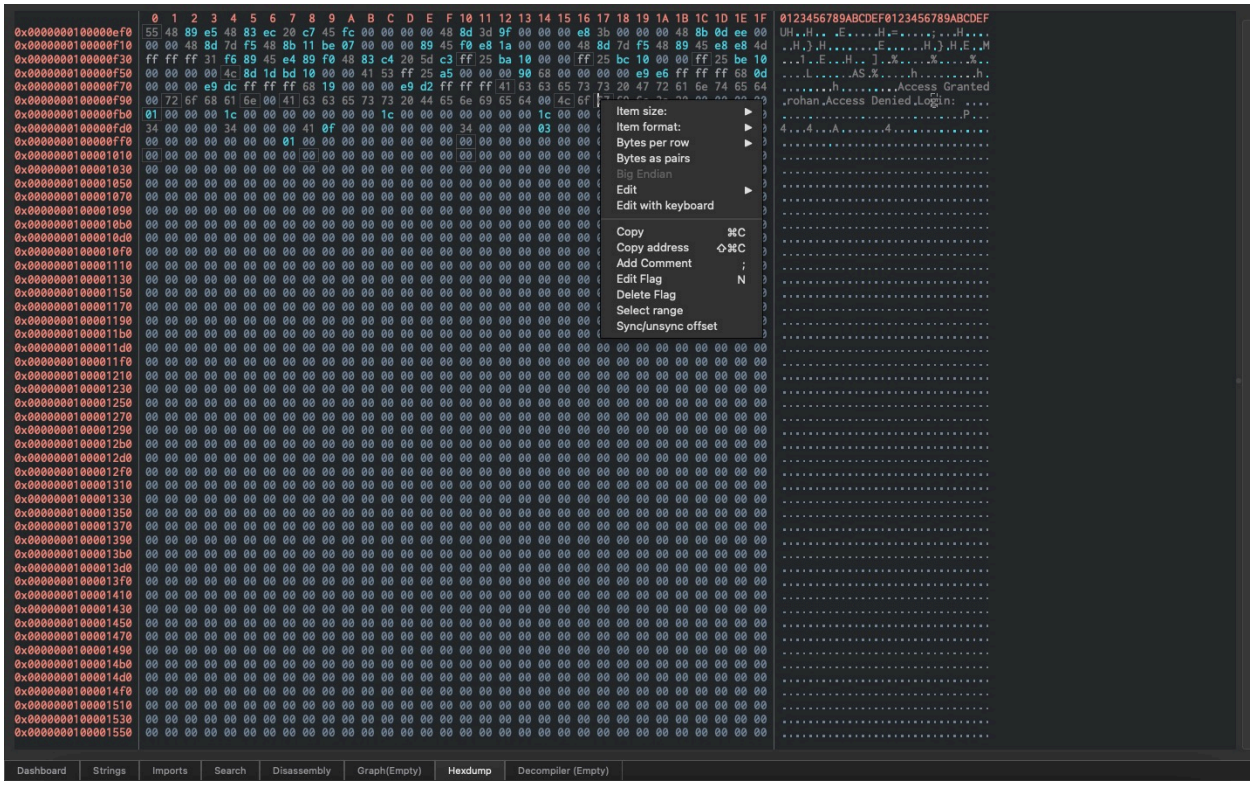
Menu for adding a flag



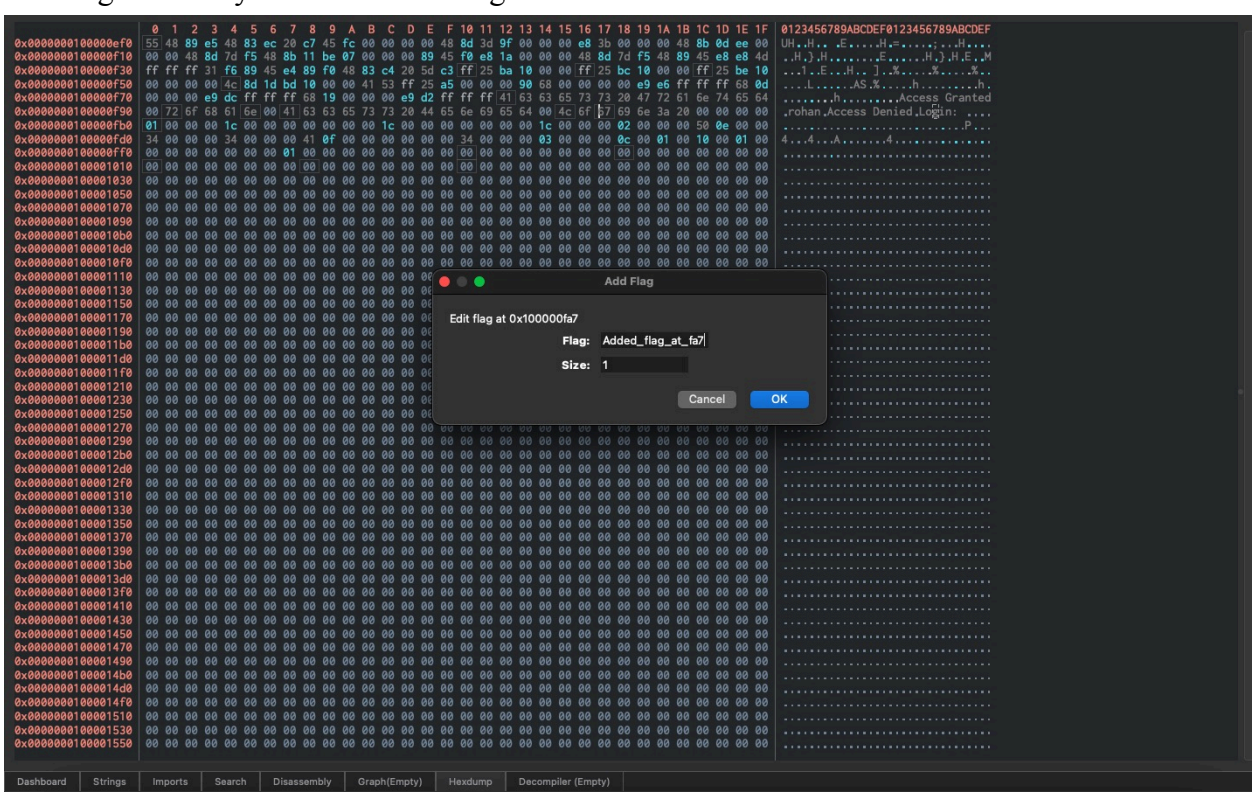
Synchronization in the disassembly view



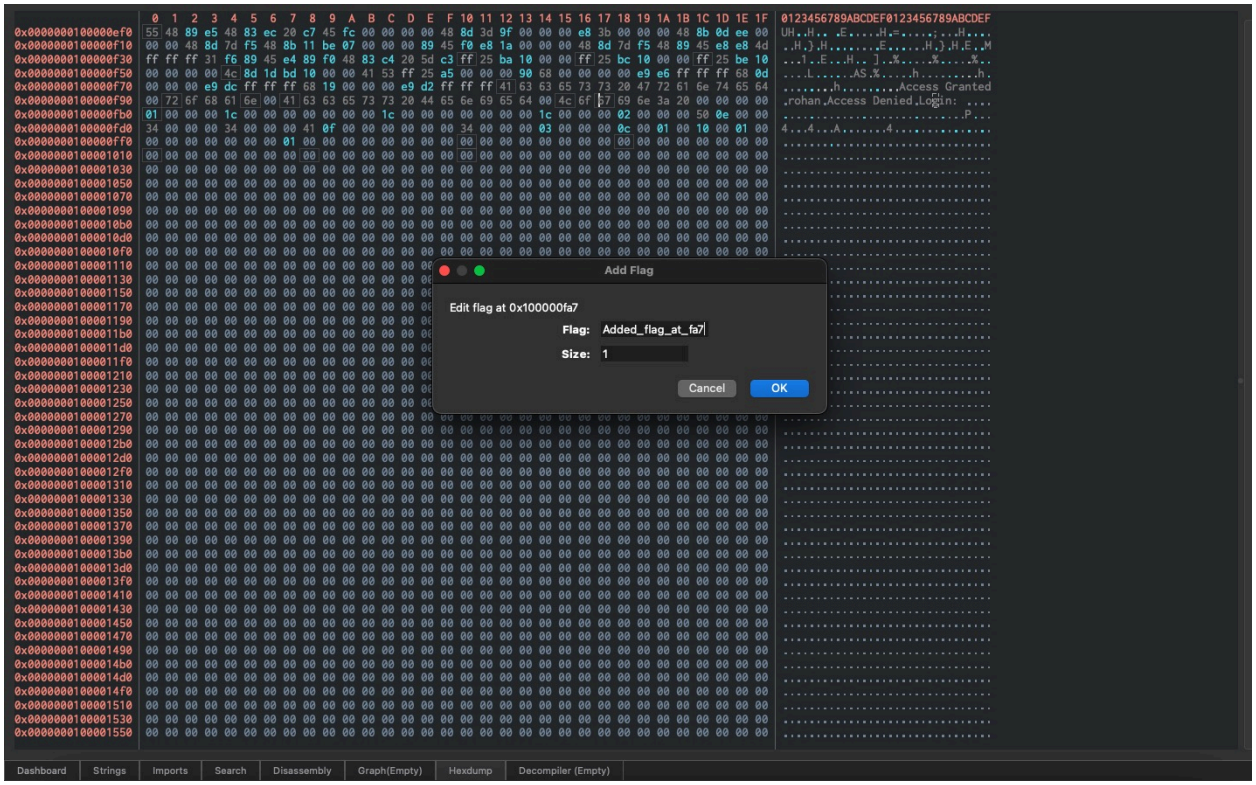
Showing the new flag in the hexdump view



Showing the ability to edit the new flag



Showing the edit menu for an existing flag in the hexdump view



Issue 2: Multiline Operations / Multiline Selection

Link to issue two: https://github.com/rizinorg/cutter/issues/2601

For this issue, we were tasked with adding the ability to select multiple lines of code at a time and let the user perform operations across these selected lines.

You can select multiple lines by pressing shift while you left click each line you want to perform operations on. The operations menu can then be opened by right clicking and selecting the operation.

Some of the new operations that will be added as we develop are the ability to define lines as code if they are currently defined as data, and define lines as data if they are currently defined as code.

Screenshot for issue two:

Multiple lines being selected

```
0x00000350    invalid
0x00000354    ldr     d23, 0xc9788
0x00000358    invalid
0x0000035c    strh    w27, [sp, w12, sxtw 1]
0x00000360    invalid
0x00000364    ldr     s20, 0xffffffffffffc25a8
0x00000368    invalid
0x0000036c    invalid
0x00000370    invalid
0x00000374    ldxp    w29, w15, [x6]
0x00000376    ldff1h  { z29.s }, p3/z, [x10, z12.s, uxtw]
0x0000037c    invalid
0x00000380    invalid
0x00000384    invalid
0x00000388    stp     x9, x2, [x27, 0x60]!
0x0000038c    smov    x12, v29.b[8]
0x00000390    ldr     d10, 0xb26e8
0x00000394    invalid
0x00000398    invalid
0x0000039c    adr     x2r, 0xffffffffffff64d9b
0x000003a0    invalid
0x000003a4    invalid
0x000003a8    bic     p3.b, p10/z, p11.b, p4.b
0x000003ac    ldnrh   { z9.s }, p4/z, [x10, 0x28]
0x000003b0    invalid
0x000003b4    prfm    pldl1strm, 0x45e54
0x000003b8    invalid
0x000003bc    invalid
0x000003c0    adds    x6, x2, 0x3f1
0x000003c4    mov     z26.b, p2/m, z8ff.b,w12, 3
0x000003c8    stp     d13, d0, [x2, -0x70]!
0x000003cc    tbz     w18, 0x11, 0x34cc
0x000003d0    invalid
0x000003d4    st4b    { z17.s }, p6, [z2.s, x12]
0x000003d8    invalid
0x000003dc    invalid
0x000003e0    strh    w2, [x13, 0x18a]
0x000003e4    stlur   q13, [x16, -0x56]
0x000003e8    invalid
0x000003ec    invalid
0x000003f0    invalid
0x000003f4    invalid
0x000003f8    invalid
0x000003fc    sth     { z22.s }, p4, [x25, z27.s, sxtw 1]
0x00000400    invalid
0x00000404    invalid
0x00000408    invalid
0x0000040c    cbnz    x2r, 0xe4978
0x00000410    invalid
0x00000414    b       0xffffffffffd6e5d38
0x00000418    invalid
0x0000041c    ldr     q19, [x18, x27]
0x00000420    invalid
0x00000424    invalid
0x00000428    invalid
0x0000042c    attr    x4, [x4, -0x59]
0x00000430    invalid
0x00000434    fmla    z11, z16, v13.s[3]
0x00000438    facgt   v12.2d, v14.2d, v7.2d
0x0000043c    subs    x27, x10, x26, asr 52
0x00000440    orr     z1, z8, z3, asr 56
0x00000444    invalid
0x00000448    stp     x8, x6, [x11, 0x188]
0x0000044c    invalid
0x00000450    invalid
0x00000454    fnsub   h6, h7, h27, h5
0x00000458    invalid
0x0000045c    invalid
```