***Lab 7 & 8 (two weeks)***
There is an accompanying assembly program “BigLab.asm” that uses MARS’s MMIO and bitmap display to simulate the snake game.

Working in teams of no less than 3 and no more than 4, make meaningful changes to the program per the instructions below.

*Every new mips instruction you write must be commented to the right, and every new logical unit you create must be commented above.
*You may find it useful to overhaul the program with extensive use of MIPS macros.
*You may use generative AI as a rubber duck, but not to generate code.

***You will be graded on 5 criteria: 4 changes***
(1) A large change (60%)
(2) A small change (15%)
(3) Something unexpected (15%)
(4) Something optimized (10%)

***(1) (60%) A large change.***
You must make a large, substantive change to this program.
You are adding a unique feature to the game in the form of a mechanic.
Do not choose a small change and claim it is a large change.
If your team chooses a duplicate feature to another team’s, yours must be better.

Examples of large changes:
3+ additional controls --
    pause for a moment before continuing
    reverse directions (the tail becomes the head)
a second snake (player controlled)
a second snake (drunkard's walk)
3+ terrain types --
    speed up
    slow down
    ice (carries momentum, disables control)
    portals (no warping... too easy)
3+ types of fruit -
    food that shrinks you
    food that reverses direction

***(2) (15%) A small change.***
Examples of small changes:
a syscall output for realtime score
changing the color of the snake
change any color, really. (dark mode)

flip the screen mechanic
flip the controls for a duration
additional walls/ obstacles

***(3) (15%) Something unexpected***
If I type it, it's not unexpected.

***(4) (10%) Something optimized***
Pick any operation in the existing code.
Literally any instruction or operation.
Make it faster using an operation or efficiency or trick from the first exam or Hacker's Delight..
If you are struggling, you may shoehorn an optimization into your own new code.

***Submission***
Document these changes as short descriptions with screenshots in a pdf with subheadings numbered 1 through 4 so I know what I'm getting into when I run your team's program.
Please don't format this like an essay with double spacing. That's not what this is. It's an executive summary. No more than a page or two.

Put both the pdf and the asm into a zip, and submit one per group.
Everyone's name should be on the document.
In the code, leave the attributions to the original authors intact.
Add your own attribution block below theirs.

There will be a peer-assessment of effort on the due date -- administered via Google forms, required by all. I will scale individual grades by peer-evaluation scores for effort.