Exercise 7

Each chapter in the book ends with an interview question followed by the analysis of what an interviewer would look for in an answer. Choose two of the following questions to answer.

- I.3: What is an ISR?
- I.5: Why do we use the keyword volatile? (Also R.8)
- R.6. What are the uses of the keyword static?
- R.2 Write the ‘standard’ MIN macro. That is, a macro that takes two arguments and returns the smaller of the two arguments.
- I.12: Is it possible for a variable to be both volatile and const?
- I.15: What is a reentrant function?
- I.16: What kind of loop is better: Count up from zero or count down to zero? Why?
- R.9: Given an integer variable a, write two code fragments. The first should set bit 3 of a. The second should clear bit 3 of a. In both cases, the other bits should be unmodified.
- R.10: On a certain project it is required to set an integer variable at the absolute address 0x67a9 to the value 0xaa55. Write code to accomplish this task.
- I.20: What are the reasons for segmentation faults in embedded C? How do you avoid these errors?
- I.31: When does a memory leak occur? What are the ways of avoiding it?
- R.14: What are the problems with dynamic memory allocation in embedded systems?

Answers for the I.x ones are here, answers for the R.x ones are here.

Note: this is intended to be a relatively short assignment to give you time to work on your final project.

Please note in Discord which questions you chose and how close to a correct answer you got (right train of thought, syntax, completely different). Be ready to talk about your question in discussion in Live Class.