

CS 286-001 Computer Architecture & Organization
Fall 2026

Quiz #2 on August 31, 2026 (**SOLUTIONS**)

Your Last Three Digits: _____

(please do NOT write all of your student ID or your name)

Grade: _____

(1) What are the three primary advantages of learning “computer organization and architecture” by CS majors?

- Improved debugging skills
- Performance optimizations (faster programs, smaller programs in memory)
- More reliable program codes (or skills for advanced programming, such as parallel programming)

(2) If a necessary condition is satisfied, what conclusion can we draw?

No conclusion

(3) What are the three different types of “program files”? Which format do processors understand?

Three different types of program files are:

- ① Source-code files in high-level programming languages
- ② Source-code files in assembly languages
- ③ Binary executable files

Processors understand (can execute) only binary executable files

(4) What is the primary purpose of “assembly source code files”?

Note: “for converting high-level source code files into binary executable files” is not a good purpose (as we discussed on 8/26).

By developing source code files (or by understanding source code files) in an assembly language, we expect the following advantages:

- (by understanding how processors execute programs) debugging will be easy (or improving debugging skills).
- (by understanding how processors execute programs) performance optimizations are possible (or they will be easy).

(5) What does “low-level” in “low-level programming languages” mean?

The term, “low-level” (in computer science), means “close to (computer) hardware”.