

Lecture 7 Learning outcomes

Upon successful completion of this module, you will be able to:

- Describe the operational principles of pipelining
- Design 5-stage pipeline processors for MIPS instruction set
- Resolve data hazards in MIPS pipeline
- Resolve control hazards in MIPS pipeline
- Calculate pipeline performance of instruction execution

Lecture 7 Activities

Lecture 7 study is split into 2-day work.

Day 1

Session I:

View Lecture 7a: Pipeline Basics

Study zyBook 4.5

Session II:

View Lecture 7b: Pipeline Architecture

Study zyBook 4.6

Session III:

Recap and practice

Homework #5 (work on problems already covered in the lectures)

Day 2

Session I:

View Lecture 7c: DataHazard

Study zyBook 4.7

Session II:

View Lecture 7d: Control Hazard

Study zyBook 4.8

Session III:

Review and Catchup

Complete Homework #5

Assignment Checklist:

H5, Z9 (zyBook 4.5-4.8) -- due Th 7/1