Chap1: CPU Performance

Metrics:

- CPU time
- CPI
- CC
- IC

Chap2: No

Chap3: ISA (ALL)

- Instruction formats
- Programming structure, if, if then, switch case, loop
- Procedure

Chap4: Arithmetic for Computer

- Integer: representation (signed, unsigned)
- Floating point number: representation
- Integer arithmetic operations: add, sub, mul, div
- Overflow

Chap5: CPU

- CPU implementation, datapath, datapath with control, multiplexor.
- Pipeline (except designing ALU, pipeline datapath)
- Hazards & solving Hazards.

Chap6:

- Cache Memory (except virtual memory)
- Locality principle, directed mapping, n-way set associative, ...

Chap7: I/O system

- Memory mapped I/O.
- Polling method.