

Sequential logic

2018年3月24日 20:29

Logic Model

- Background
 - We have discussed about combinational logic, which provide necessary abilities needed to build memory.
 - We have built ALU, in which input and output is not defined.
- Goal
 - By combine combinational logic with DFF, we are going to build register and memory, using which we are closed to building whole the computer architecture.
- Input
 - Content: DFF, register, memory.
 - Studying Material: Nand2T course, the element of computing system.
 - Tools: HDL and hardware simulator.
- Process
 - Learn the property of DFF
 - Build one-bit chips: register, PC
 - Build a RAM4k
- Output
 - Build chips about memory needed in computer.
 - Pass the test
- Effect
 - Understanding how computer stores data.
 - Understanding Location, read ,write which are used in later chapters.

Content

- Project
 - Time: DFF:
 - Option choice:
 - Location choice:
- Questions discussion:
 - Why time?
 - Comparison:
 - With human mind, hard disk.
 - Difference between register and RAM.

Connection

- Chapter1 (base)
- CPU and assembly language
 - Register and Memory
- VM memory mapping
 - Stack, heap, virtual register
- Array and Object in high-level language