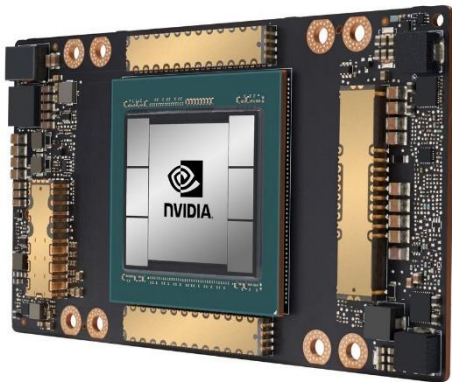


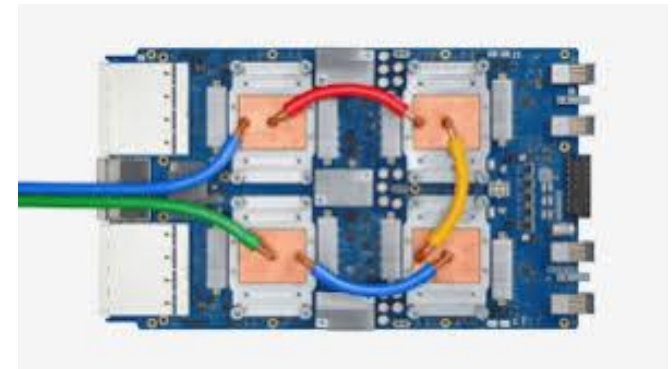
CSCB58: Computer Organization



Prof. Gennady Pekhimenko

University of Toronto

Fall 2020



*The content of this lecture is adapted from the lectures of
Larry Zheng and Steve Engels*

CSCB58 Week 9: Summary

Week 9 Summary

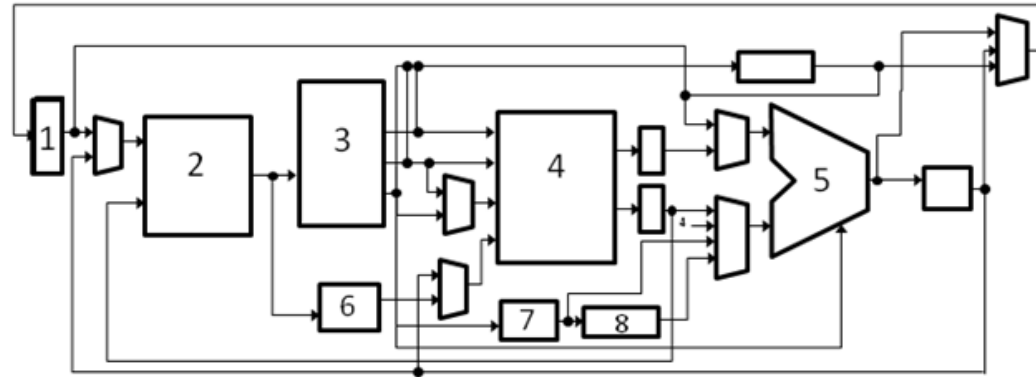
We learned

- Processor components
 - Control flow
 - Data flow path

Question #1

- Your RAM unit has 6 address bits going into it. Given a 32-bit architecture, how many integers is your RAM unit able to store?
- Be careful here!
 - 6 address bits $\rightarrow 2^6$ memory slots = 64 bytes.
 - 32-bit architecture $\rightarrow 4$ bytes per integer.
 - RAM capacity = $64 / 4 = 16$ integers in memory.

Question #2



1: _____ 5: _____
2: _____ 6: _____
3: _____ 7: _____
4: _____ 8: _____

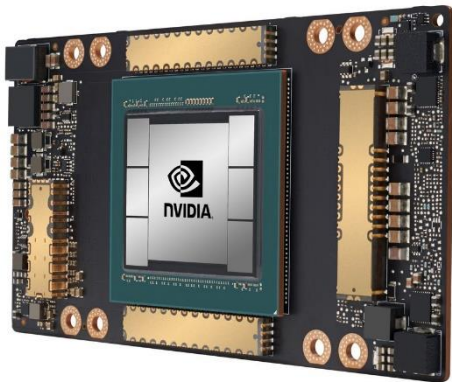
- Can you identify the components in the datapath above?



Question #3

- Where are instructions stored?
 - In memory, along with the data values
- How long is a single instruction?
 - 4 bytes (32 bits)
- What is the role of the Program Counter (PC)?
 - Store the location of the current instruction.
- What do we mean by instruction fetch?
 - Retrieve an instruction from memory.
- Where does the processor keep the instruction that is currently being executed?
 - In the Instruction Register.

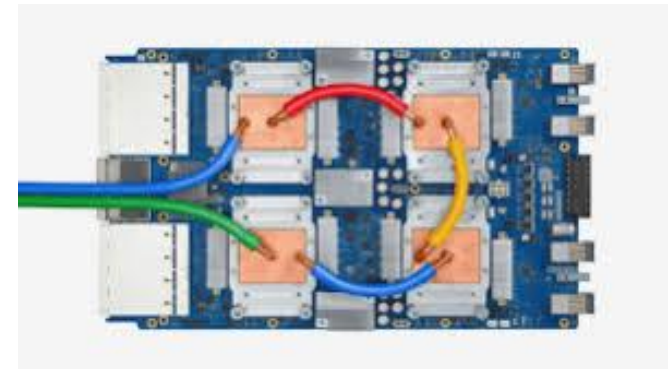
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