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1. What does ISA stand for? What is ISA?
ISA(Instruction Set Architecture) is an interface between software and hardware.

2. List two popular ISAs that we discussed in class
X86, ARM

3. Explain why we need (or have) different ISAs?
Because they are designed to focus on different target workloads. For example, the desktop has the performance of various programs but mobile has an energy consumption.

4. Explain the difference between Macro- and Micro-architectures
Microarchitecture can vary as long as it satisfies macroarchitecture. ISA is considered as macroarchitecture and Microarchitecture is an implementation of macroarchitecture.

5. List two companies that design and sell x86 processors
Intel, AMD

6. Describe Moore's law
Moore’s law is that the transistor counts on a single chip doubles every 18~24 months.

7. Explain why the microprocessor industry has moved to multi-core processors around 2005-2006?
According to Moore's law, the computing power of a single chip also doubles every 18~24 months.

8. List one example of CISC and RISC ISA respectively
CISC is x86 and RISC is ARM.

9. What information does PC (Program Counter) register hold?
PC contains the address of the next instruction to execute.

10. What is register file?
The register file is the collection of registers.