

8 Lecture - CS501

Important Subjective

1. **What is the purpose of the FALCON-A ISA?**

Answer: The FALCON-A ISA is designed for embedded systems and aims to provide a balance between performance, power consumption, and code density.

What is the instruction format of the FALCON-A ISA?

Answer: The instruction format of the FALCON-A ISA is fixed-length, with 32 bits per instruction.

What types of memory access instructions are supported by the FALCON-A ISA?

Answer: The FALCON-A ISA supports load, store, and atomic operations for memory access.

What types of arithmetic and logical instructions are supported by the FALCON-A ISA?

Answer: The FALCON-A ISA supports addition, subtraction, multiplication, division, and bitwise operations.

What is the benefit of a fixed-length instruction format in the FALCON-A ISA?

Answer: A fixed-length instruction format allows for faster instruction decoding and execution.

What is the primary advantage of the FALCON-A ISA for embedded systems?

Answer: The primary advantage of the FALCON-A ISA for embedded systems is its low power consumption.

What is the purpose of the power-saving modes in the FALCON-A ISA?

Answer: The power-saving modes in the FALCON-A ISA are designed to reduce power consumption in embedded systems.

What is the difference between RISC and CISC architectures?

Answer: RISC architectures have a smaller, simpler instruction set than CISC architectures, and they typically use a fixed-length instruction format.

How does the FALCON-A ISA achieve a balance between performance, power consumption, and code density?

Answer: The FALCON-A ISA achieves a balance between performance, power consumption, and code density through its 32-bit RISC instruction set, fixed-length instruction format, and support for power-saving modes.

What type of devices are the FALCON-A ISA and architecture suitable for?

Answer: The FALCON-A ISA and architecture are suitable for mobile and battery-powered devices, such as smartphones, tablets, and wearables.