22 Lecture - CS501

Important Subjective

1. What is microprogramming?

Answer: Microprogramming is a technique used to implement complex instructions in a processor by breaking them down into smaller microinstructions.

What is a microinstruction?

Answer: A microinstruction is a small instruction that is part of a complex instruction, which is broken down into smaller units during microprogramming.

What is a control memory in microprogramming?

Answer: A control memory is a type of memory that stores microinstructions, which are used to implement complex instructions in a processor.

How does microprogramming differ from hardwired control?

Answer: Microprogramming uses software to control the processor, while hardwired control uses hardware.

What is the role of a microprogram counter in microprogramming?

Answer: A microprogram counter is a register that holds the address of the current microinstruction during microprogramming.

How does microprogramming help in the implementation of complex instructions?

Answer: Microprogramming helps in the implementation of complex instructions by breaking them down into smaller microinstructions, which can be executed by the processor's control unit.

What are the advantages of microprogramming?

Answer: Microprogramming facilitates the implementation of complex instructions and allows for the design of processors with a wider range of instruction sets.

What are the disadvantages of microprogramming?

Answer: Microprogramming increases the complexity of a processor and can reduce its performance.

What is a microsequencer in microprogramming?

Answer: A microsequencer is a component of a microprogrammed control unit that generates the address of the next microinstruction to be executed.

How does a compiler play a role in microprogramming?

Answer: A compiler plays a role in microprogramming by optimizing the code to reduce data dependencies between instructions and by breaking down complex instructions into smaller microinstructions.