17 Lecture - CS401

Important Subjective

1. **What was the primary use of the Motorola 68K processors?**
   Answer: The Motorola 68K processors were widely used in personal computers, workstations, and embedded systems in the 1980s and 1990s.

   What was the clock speed of the original Motorola 68000 processor?
   Answer: The original Motorola 68000 processor had a clock speed of 8 MHz.

   What were some of the unique features of the 68K instruction set?
   Answer: The 68K instruction set included flexible addressing modes, support for bit manipulation and logical operations, and powerful conditional branching instructions.

   What was the significance of the Motorola 68020 processor?
   Answer: The Motorola 68020 processor introduced support for virtual memory and was a significant improvement over its predecessor, the 68000.

   How many registers does the Motorola 68K processor have?
   Answer: The Motorola 68K processor has a total of 16 registers, including 8 data registers and 8 address registers.

   What is the maximum amount of memory that can be addressed by the 68K processor?
   Answer: The 68K processor can address up to 4 gigabytes of memory.

   What are some of the different addressing modes supported by the 68K processor?
   Answer: The 68K processor supports a variety of addressing modes, including register, immediate, direct, indirect, and indexed addressing.

   What was the role of the Motorola 68K processor in the development of the Amiga computer?
   Answer: The Motorola 68K processor was used as the primary CPU in the Amiga computer, and was a key factor in the system's success.

   What was the main advantage of the CISC architecture used by the 68K processor?
   Answer: The CISC architecture used by the 68K processor allowed for complex instructions to be executed in a single clock cycle, which resulted in faster overall performance.

   What eventually led to the decline of the Motorola 68K processor?
   Answer: The decline of the Motorola 68K processor was due to the rise of newer processors, such as the Intel x86 and the PowerPC, which offered better performance and compatibility with newer software.