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CHAPTER: 5

LAB: 5

ANIMATED FLASHCARDS

1. Access time

2. Addressability

3. Allocate

4. Arithmetic/logic unit

5. Auxiliary storage device

6. Block

7. Bus

8. Control unit

9. CPU

10. Cylinder

11. Fetch-execute cycle

12. Input

13. Input unit

14. Input/output (I/O) devices

15. Instruction register (IR)

16. Latency

17. Motherboard

18. Output unit

19. Pipelining processing

20. Program computer (PC)

21. Register

22. Sector

23. Seek time

24. Shared memory

25. Synchronous processing

26. Track

27. Transfer rate

BOOK EXERCISES

1. B

2. A

3. C

4. D

5. H

6. G

7. E

8. F

9. G

10. F

11. E

12. D

13. A

14. I

15. E

16. I

17. F

18. A

19. C

20. E

21. B

22. F

23. D

27. Saying a memory is 133MHz means that the memory can be accessed

at 133,000,000 cycles per second.

28. a. 128 \* 220

b. 256 \* 220

29. RPM stands for revolutions per minute. This is a measure of how fast

a disk revolves. Data can only be accessed when the reading head is

over the data. Therefore the RPM indicates how fast each piece of

data can be accessed

30. The stored program concept means that data and instructions are both

logically the same and can both be stored in memory. The von

Neumann architecture is built around this principle. It is important

because the human does not have to execute instruction from without

the machine. Instructions can be stored in memory and executed in

sequence referencing the data values it needs to operate on.

31. This expression means that memory is separate from the central

processing unit

32. memory, arithmetic/logic unit, input/output units, the control unit

33. 8

34. The ALU performs basic arithmetic operations (addition, subtraction,

multiplication, and dividion) and logical operations (AND, OR,

NOT).

35. The computer component that acts as the state manager is the control

unit. It controls the actions of the other components in order to

execute instructions in sequence

36. Punched cards and paper tape used for input were prepared on separate machines and then read into the computer. Input from cards and

paper tape is slow, but they provided a permanent record of the input.

When used for output, cards and paper tape had to be transferred to

another device to get a human-readable copy of the information;

however, the output could be stored permanently on cards and paper

tap

37. The instruction register is a special register in the control unit. It holds

the instruction being executed.

38. The program counter is a special register in the control unit. It holds

the address of the next instruction to be executed.

39. Fetch the next instruction from the address in the program counter.

Decode the instruction.

Execute the instruction.

40. The control unit goes to the address named in the program counter,

makes a copy of the contents of that address, puts the copy into the

instruction register, and increments the program counter.

41. The control unit determines what the instruction is and accesses any

memory locations that contain operands for the instruction.

42. Signals are sent to the arithmetic/logic unit to carry out the processing.

43. RAM is an acronym for Random Access Memory; ROM is an

acronym for Read Only Memory. Both RAM and ROM are random

access; that is, each cell in memory is directly accessible. The cells in

RAM can be both read from and written to. The cells in ROM can

only be read from. The bit pattern in ROM is determined at the time

of manufacture or burned when the computer is assembled. Once a

ROM has been burned (written), it cannot be changed. Another major

difference is that RAM is volatile and ROM is not. This means that

RAM does not maintain its bit patterns when the power is turned off,

but ROM does