

J1A3 Computer Memory

1. How is data represented in main memory?

In a pattern of bits that can only be two different values

2. How is data represented in secondary memory?

The same as main memory as a pattern of bits

3. List 5 different ways that bits can be represented.

A tiny part of the surface of a magnetic disk.

A tiny part of the surface of a magnetic tape.

A hole punched in a card.

A tiny part of the light-reflecting surface of a CD.

Part of a radio signal

4. Does the information change when a bit is copied from one form of storage to another? For example, does the information change when a bit implemented as a voltage level on a wire is copied to a tiny part of a disk?

No different ways of storing the bit does not change the value of the bits

5. Does information stored in binary form change when it is copied from one medium to another?

The value of the bits do not change as the bits change from one medium to another

6. Does information stored in binary form change when it is copied from one medium to another many times?

No it does not.

7. Analog data (continuously changing signals) such as on LP records or audio tape also can be copied from medium to medium. Does the information of analog data change when it is copied to a different medium?

No matter of the number of transfers of data and regardless of the mediums it passes through the data values or information does not change

8. How many bits in a byte of memory?

8 bits

9. Locations in a digital image are specified by a row number and a column number. Say that a particular digital image is 1024 rows by 1024 columns, and that each location holds one byte. How many megabytes are in that image?

.131072

10. Does each byte of main memory have a unique address?

Yes each byte has its own address

11. What is a file?

A file is a collection of information that has been given a name and is stored in secondary memory. The information can be a program or can be data.

12. What are the two types of files?

Sequential Access — The data are placed in the file in a sequence like beads on a string. Data are processed in sequence, one after another. To reach a particular item of data, all the data that processes, it first must be read.

Random Access — The data are placed into the file by going directly to the location in the file assigned to each data item. Data are processed in any order. A particular item of data can be reached by going directly to it, without looking at any other data.