

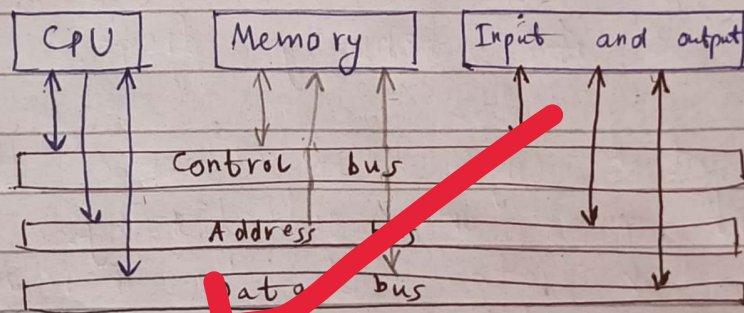
Question no. 2 (c)

What are computer buses? Differentiate between RAM and ROM?

### Computer bus

A computer bus is a communication system through which data can be transferred. It is essentially a set of pathways (wires, traces, etc) that carries data, addresses and control signal.

### Diagram of computer bus



Discuss this part in a bit more detail

### RAM

RAM stands for Random Access Memory. RAM is made up of small memory chips that form a memory module. RAM is used for temporary data storage that CPU can easily access and modify.

### ROM

ROM stands for Read Only Memory. ROM is a memory containing hard wired instructions that the computer uses for when it starts up. It is used to store permanent instructions that are not intended to be modified frequently.

## Differences

1

### Volatility

RAM: Volatile (loses data when power is off).

ROM: Non-volatile (retains data when power is off).

2

### Read/Write capabilities

RAM: Read and write operations are both possible.

ROM: Primarily read-only; writing is either not possible or limited.

3

### Usage

RAM: RAM is used for temporary storage of data being actively used by CPU.

ROM: ROM is used for storing firmware and permanent instructions.

4

### Speed

RAM: Generally faster due to its design for frequent access.

ROM: Slower speeds; optimized for stability and permanence.

5 Hardware structure

RAM: RAM is in form of chips.

ROM: ROM is generally optical drives made of magnetic tapes.

6

### Examples

RAM: Static and dynamic RAM

ROM: PROM, EPROM are types of ROM.

7

### Size

RAM: Chip size is larger than ROM.

ROM: Chip size is smaller than RAM.