

Theory Notes Task: Fetch-Decode-Execute Cycle

1. The Fetch-Decode-Execute cycle is used by the CPU to carry out a single instruction contained in a computer program.

Draw a diagram to illustrate the flow of instructions during this cycle

2. List the five registers that are involved with the Fetch-Decode-Execute cycle

3. At the start of the 'Fetch' operation, where will the instruction or data be fetched from?

4. Only one program can be running in main memory

True False

5. Complete the following diagram to illustrate the Fetch operation.

The program you want to run is loaded into



The starting address location is loaded into the



The program counter value is copied into the



The Control Unit then loads the address on to the



And then sends a signal to

read the address

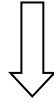


The instruction at that address is passed across the data bus and copied into the



The instruction in the MDR is copied into the

So that it is ready to use during the next stage (Decode)



The

Is incremented by one location so that it is ready to begin the next fetch cycle.

That is the end of the fetch cycle.

5. Explain what takes place during the 'decode' part of the fetch-decode-execute cycle

6. Outline what takes place during the 'execute' part of the fetch-decode-execute cycle