

**AQA Computer Science A-Level**  
**4.7.2 The stored program concept**  
Concise Notes



**Specification:**

**4.7.2.1 The meaning of the stored program concept:**

Be able to describe the stored program concept: machine code instructions stored in main memory are fetched and executed serially by a processor that performs arithmetic and logical operations.



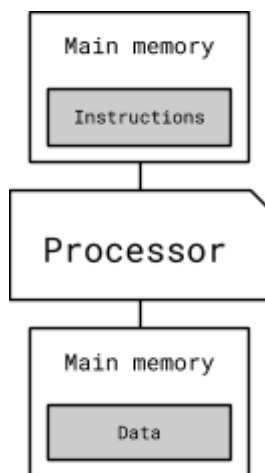
## The stored program concept

### Definition:

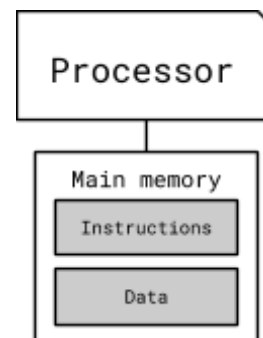
- Machine code instructions stored in main memory
- are fetched and executed serially
- by a processor that performs arithmetic and logical operations

### The stored program concept

- Allows one set of instructions to be switched out for another
- Allows modern computers to run numerous different applications
- The contents of a memory location to be interpreted either as instructions or data
- This can be exploited in hacks that work by placing instructions in the position of data in order to make the computer execute malicious code
- The universal Turing machine is seen as an early example of the stored program concept
- Computers that use the stored program concept can be based on one of two different architectures:
  - Harvard architecture
  - von Neumann architecture



**Harvard architecture**



**von Neumann architecture**

