

THE DIFFERENT ARCHITECTURES

VON NEUMANN

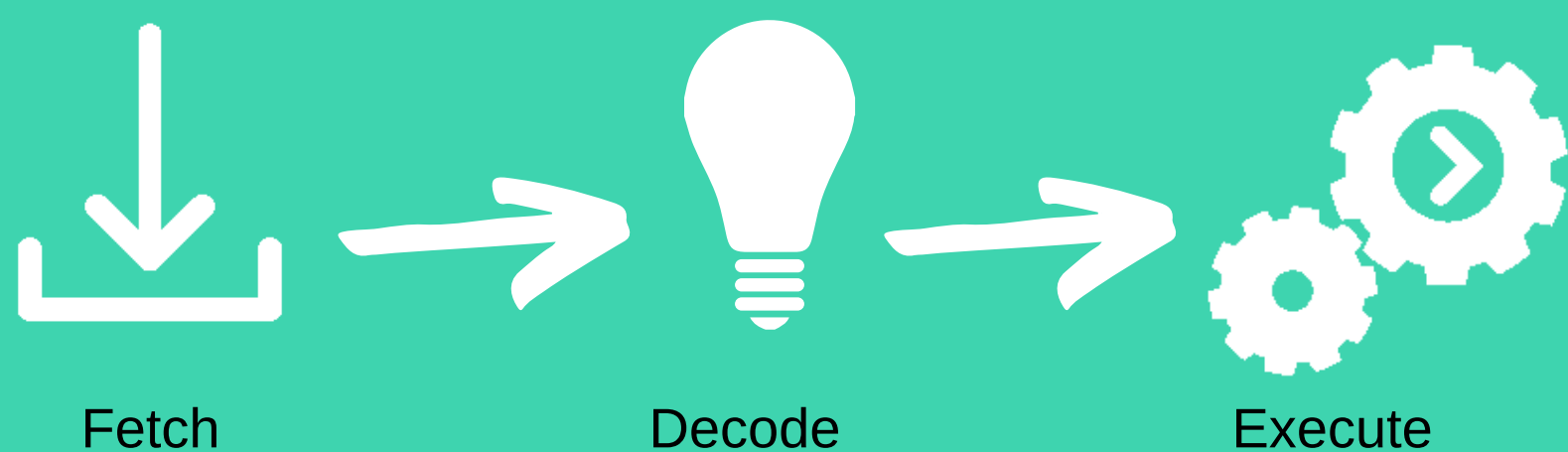
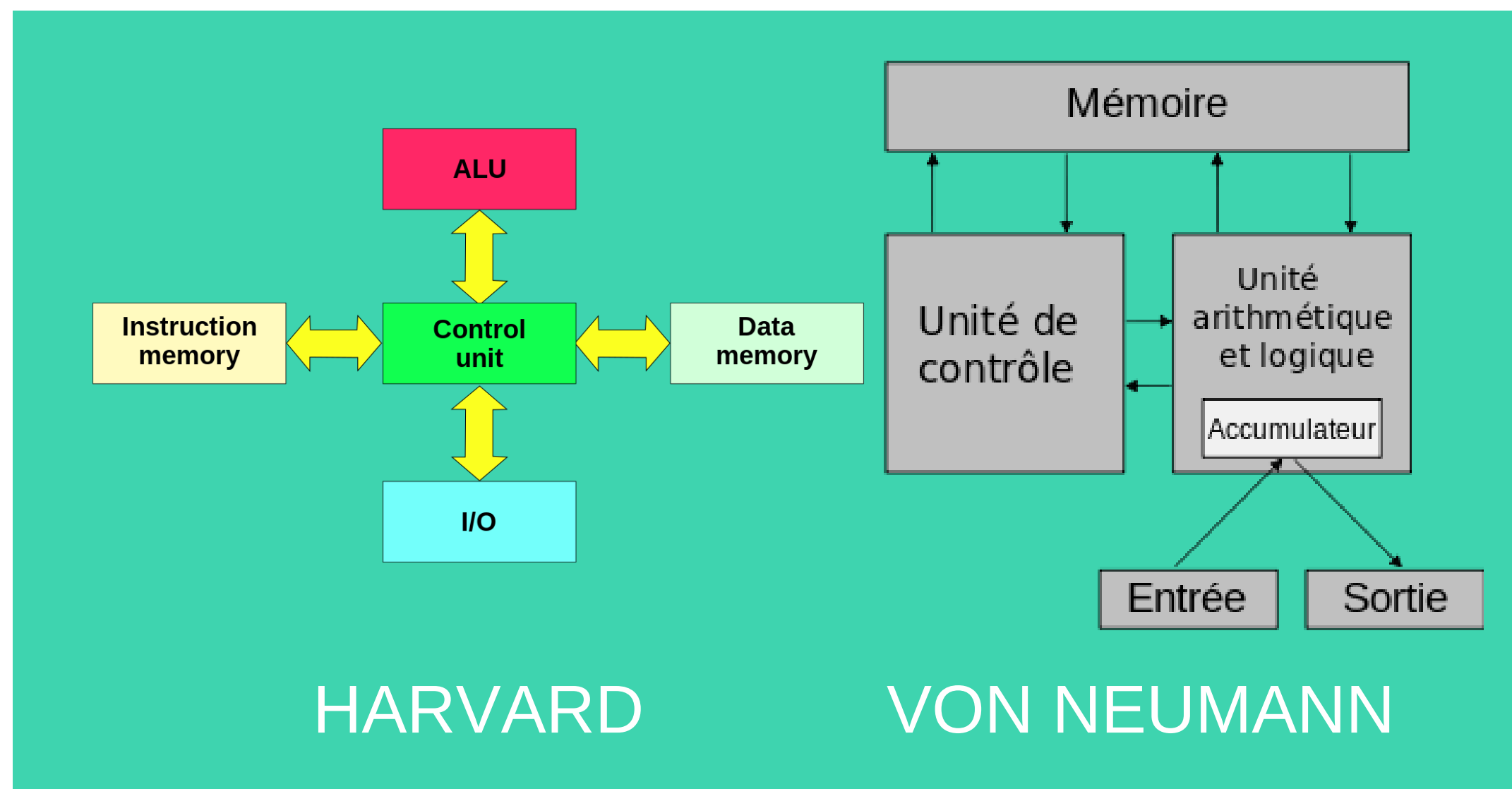
The von neumann architecture is a kind of computer architecture. That uses the same memory for data and instructions.

HARVARD

The harvard architecture is a kind of computer architecture. That uses two separate, one for memory for one for data and instructions.

HOW THEY WORK

The harvard and von newmann architecture both work with the same principle (Fetch and Execute) witch are the core instructions that a processor does, it fetches information from memory and executes it. The biggest differents between the two is that the von neumann introduces a third instruction that is decode. Because the data and the instruction are in the same memory pool the von neumann processor has to find the difference.



MODERN CPU'S

Most modern CPU's use the von neumann architecture. The von neumann is the most used computer architecture but in certain case, the harvard architecture is the best solution. Some processor also merge the two kind of architecture by using two separate memory for main data and instruction but also has a bottleneck cache memory that has data and instruction inside so that the processor can access the data quicker.