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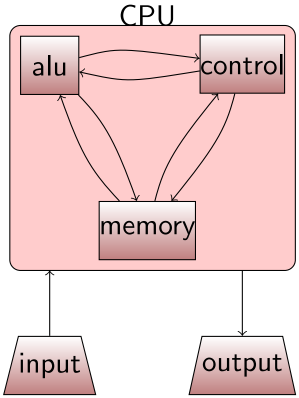
Examples

- Cooking recipies,
- Operational manual of a music system,
- Navigational directions,
- And of course computer programs.

von Neumann architecture



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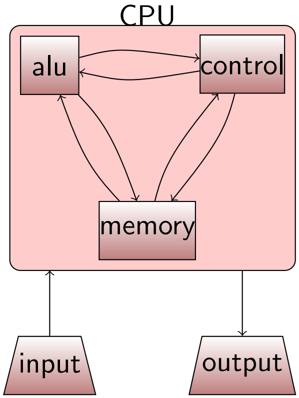
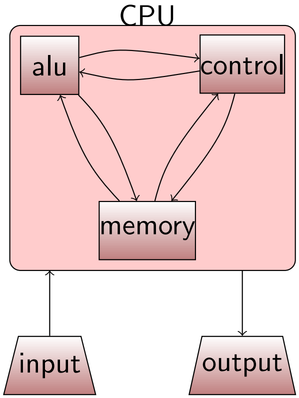


Basic instructions

von Neumann architecture



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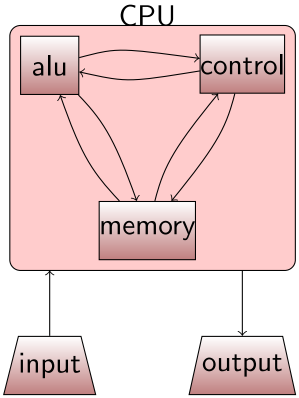

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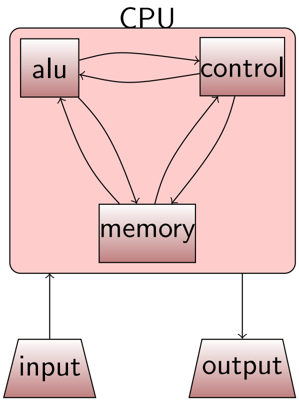

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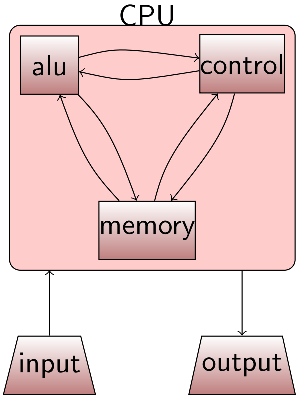
von Neumann architecture



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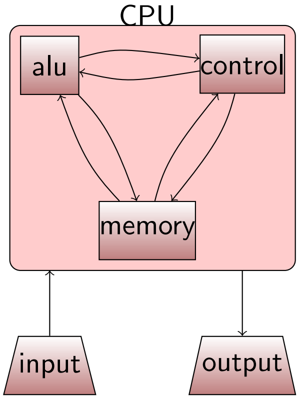

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The higher the level of language the closer to human beings. The lower level language is closer to the machine.

Why high level language?

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Why then low level language?

Easier to realise on hardware.

```
#include<stdio.h>

int main()
{
  int n;
  int sum=0;
  scanf("%d",&n);

  while(n > 0)
  {
    sum = sum + n;
    n   = n - 1;
  }

  printf("%d",sum);
}
```

Assemblers, Compilers, Interpreters

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- Some languages are interpreted. eg Python, lisp etc

Other classification of programming languages

- Imperative programming language; eg C, Pascal, Python Glorified von Neumann architecture.
- Functional programming language; eg Haskell No states, only functions
- Object oriented languages; eg Smaltalk, Simula etc. Objects and messages to objects
- Logic based language; prolog Logic based techniques, Resolution.
- Scripting languages

What to expect in this course

We will study one imperative language C.
and a scripting language the shell.