Scripting Languages

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Advanced Programming

Scripting languages

- Not a well-defined term
- Derived from shell (command line) scripts
- Often typed directly by user
- Usually no compile-link-run cycle, but interpreted or compiled "just in time" (JIT)

Scripting languages

- Often *loosely typed*
  - no explicit variable and type declaration
  - variables treated as strings or numbers according to context
- Dynamic memory allocation with automatic garbage collection
- Text processing: regular expressions, sorting, ...
- Procedural, but often with OO or namespace extensions
- Some (Tcl, sh) derived from substitution instead of evaluation
- Some (Tcl, Perl, Python) allow mixed-language programming

Scripting languages

- We'll look at typical examples:
  - sh, bash – the first one
  - sed – pattern editing
  - awk – pattern language
  - Perl – a real language for string processing
  - Tcl – shell-like, easy extensible, graphical GUI
  - Python – modern OO-oriented