

Administrivia

- To encourage you to reflect on the big picture — short minute-essay-like Homework 8 on Web, due Wednesday and accepted through the day of the final.

Slide 1

Miscellaneous Useful Tips

- If you know a lot of editor tricks, but only a few shell tricks, consider using editor to build temporary scripts. (Example(s).)
- Remember that you can customize many things about your environment:
 - Define aliases, functions, and environment variables in `.bashrc` (for `bash`).
 - Write shell scripts and put in any (writeable-by-you) directory in your search path (`echo $PATH`).

Slide 2

A Very Little about CGI

Slide 3

- What's CGI? "Common Gateway Interface" — protocol for communicating between Web forms and (your) programs.
- Programs can be in any language that can read from stdin, write to stdout, and read environment variables.
- May require some setup/configuration in Web server. More information in tutorials linked from "Useful links" page ([here](#)).
- Notice that there are security implications — you're letting anyone with a Web browser execute these programs on your computer. No problem if they're harmless, but "be careful"?

CGI "Scripts"

Slide 4

- Input is one long string of name-value pairs, either from an environment variable or from stdin. (More about this in next slide.)
- Output is usually (?) HTML, preceded by a line
`Content-type: text/plain`
and a blank line.
(But if you start by saying you're supplying a different content type, you can also return something other than HTML, for example an image.)
- See `print*` examples from class, linked from "Sample programs" page, ([here](#)).
Also notice that Web "active content" can be provided in other ways than CGI — e.g., PHP example supplied by a former student (sample program `notcgi.php`).

Input to CGI “Scripts”

Slide 5

- Missing link: CGI programs get input via environment variable or standard input, but where does it come from?
- Usual answer — HTML “form” (FORM tag). See examples linked from “Sample programs” page.
- Input, as examples show, is in the form of variable=value pairs. Parsing this could be a pain, so might best to do this in a language that provides nice library functions for it (e.g., Perl), and/or search for appropriate already-written functions in your programming language of choice.

Other Ways to Generate “Active Content” for the Web

Slide 6

- CGI scripts (in your programming language of choice) are one way.
- Other ways include Javascript, PHP, Java applets, etc., etc.

Minute Essay

- Have you written “active content” Web pages? using what?

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