PostScript® Programming

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1. What is PostScript?

PostScript is a postfix graphics description language designed for communication with printers. All Athena printers "speak" **PostScript.** In fact, *every* job that gets printed (and that isn't in **PostScript** already) gets converted to **PostScript** by the print server.

PostScript is a *postfix* language. If you have ever played around with an HP calculator (or anything else that uses Reverse Polish Notation) should know what I'm talking about...

It is a *graphics description* language. That means you can draw funky pictures in it.

It is *designed for communication with printers.* That means it's a very specialized language. Try to understand its limitations when you use it. There is code out there to draw fractals in **PostScript.** This is probably a good excercise for the author, and a complete waste of printer time. [This handout tends in that direction, too.] It's extremely easy to write completely uninteligible code in

PostScript. *Don't.*

2. Types of (some) things

`% comment`

This is a comment. Anything after a percent sign on a line is.

`4654`
`1.767`

These are, well, numbers. Executing a number just pushes the number onto the stack. **PostScript** distinguishes between reals and integers, any integer can act as a real.

`true`
`false`

The boolean values; the value gets pushed onto the stack.

`/name`

The name gets pushed onto the stack without being executed.

`(string)`

The string gets pushed onto the stack.

`[0 1 2]`

An array; the structure gets pushed onto the stack.

`{pop 3 mul add}`

A procedure; the value gets pushed onto the stack without being executed.

`operator`

The operator is executed. If it isn't defined, an error occurs.

3. Correct comments

A **PostScript** file must begin with the characters `%!` to be recognized as **PostScript** code, and not printed out as text. However, Adobe specifies a larger set of comments that a **PostScript** file should specify, and some programs like `dxpsview` complain if they are missing. Here is a set of comments I usually put in:

```
%!PS-Adobe-1.0
%%Creator: bert
%%Title: --- a title ---
%%CreationDate: --- not yet ---

%%EndProlog
%%Page: 1 1
   ...stuff for 1st page...
%%Page: 2 2
   ...stuff for 2nd page...

   ...etc...

%%Trailer
```