Perl Gotchas

Gotcha #1: `glob in context`
What is the output?

```perl
#!/usr/bin/perl -w
use strict;

opendir DIR, ".";
my @dirs = readdir DIR;
closedir DIR;

for my $dir (@dirs) {
    next if not -d $dir;
    next if $dir eq '.' or $dir eq '..';
    if ( glob ( "$dir/+.*" ) ) {
        print "Found a PNG in $dir\n";
    } else {
        print "No PNGs in $dir\n";
    }
}
```
Uh-oh...

```perl
8 for my $dir ( @dirs ) {
9     next if not -d $dir;
10    next if $dir eq '.' or $dir eq '..' ;
11    to add an outline - Click to add an outline
12    if ( glob ( "$dir/*/png" ) ) {
13        print "Found a PNG in $dir\n";
14    } else {
15        print "No PNGs in $dir\n";
16    }
17 }
18 }
```

File Edit View Terminal Help
bryan@bryan-laptop:~/Temp/gotcha-1$ ./gotcha-1.plx
Found a PNG in dir1
Found a PNG in dir2
No PNGs in dir3
bryan@bryan-laptop:~/Temp/gotcha-1$
What happened?

- Expected to see PNGs in dir1 and dir3
- This isn’t a bug... this is glob in a scalar context!
Scalar vs. list context

- Where an expression is evaluated determines its context

- E.g.,
  - my $scalar = ... # scalar context
  - my ( $var1, $var2 ) = ... # list context
  - my @array = glob ( "$dir/*.png" ) # list context
  - if ( glob ( "$dir/*.png" ) ) # scalar context

- See *Learning Perl* (Schwartz & Phoenix), §3.8 “Scalar and List Context”
If at first you don’t succeed, RTFM

• Running `perldoc -f glob`:

  In list context, returns a (possibly empty) list of filename expansions on the value of EXPR such as the standard Unix shell /bin/csh would do. In scalar context, glob iterates through such filename expansions, returning undef when the list is exhausted...
Ah-ha!

“In scalar context, glob iterates through... returning undef when the list is exhausted...”

- So each iteration, glob ignored the directory parameter and continued iterating files in `dir1/`!
Conclusion

- Perl basic: Important to know the difference between list and scalar contexts.
- `glob` behavior not particularly intuitive in scalar context
- `perldoc -f <function>` is a great resource
  - If not seeing what you expect, look for documentation on your current context