

Η γλώσσα PERL

Παντελής Μπάγκος

Παν/μιο Στερεάς Ελλάδας

2007

Η γλώσσα PERL

- Practical Extracting and Report Language
- Larry Wall
- Τι είναι, TMTOWTDI →
- Ποιος ο σκοπός της Διαχείριση αρχείων, γρήγορη καμπύλη μάθησης
- Διαθεσιμότητα, πλατφόρμες Σχεδόν όλες
- Ένα απλό πρόγραμμα

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3rd Edition
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Programming

Perl

O'REILLY*

Larry Wall, Tom Christiansen & Jon Ockers

UNIX Programming

2nd Edition

Learning Perl



A NUTSHELL*
HANDBOOK

Randal L. Schwartz & Tom Christiansen

O'Reilly & Associates, Inc.

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Perl Programming for Bioinformatics

Learn Perl
Learn Bioinformatics



Mastering Perl for Bioinformatics

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James O. Beckall

An Introduction to Perl for Biologists

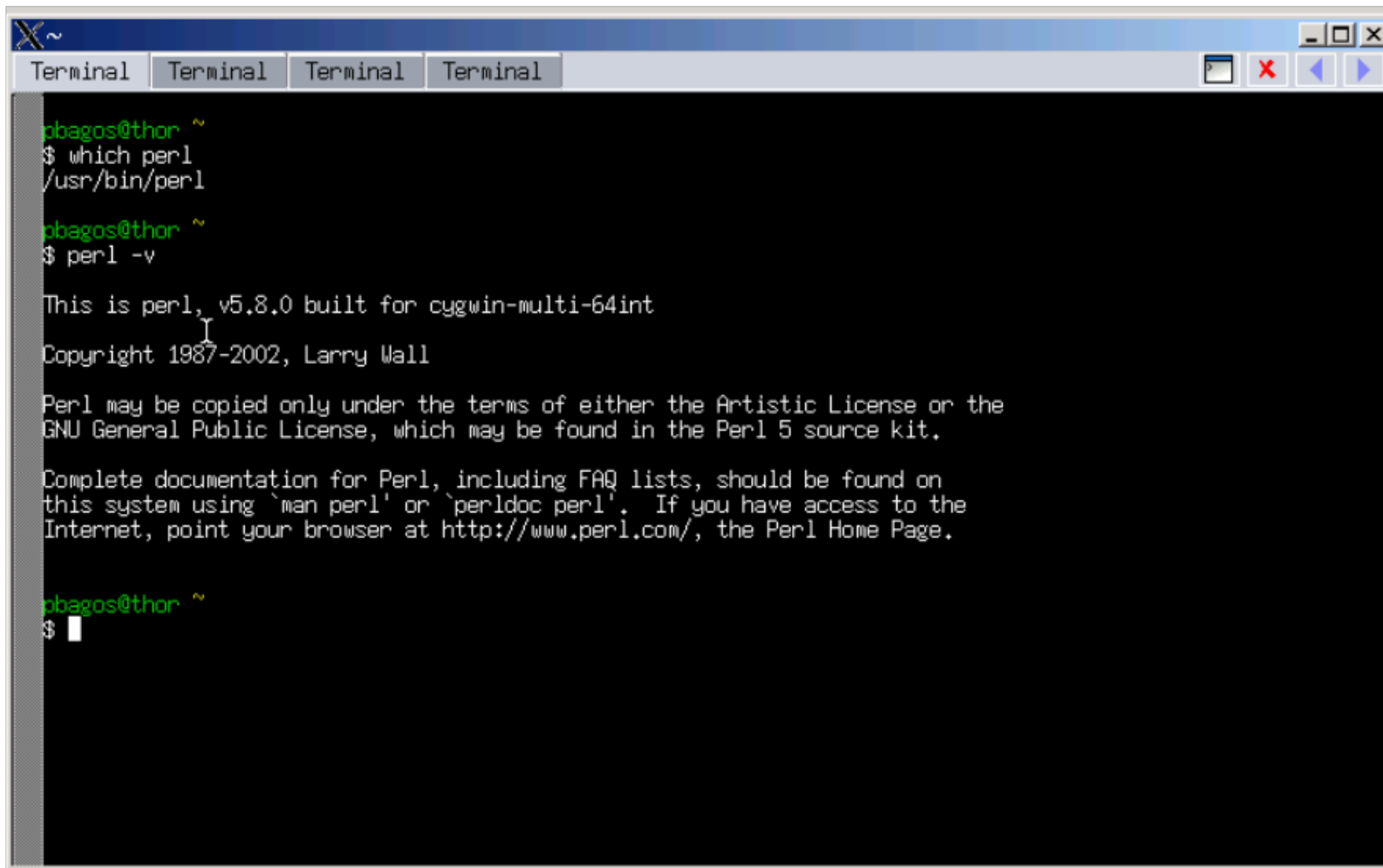


Beginning Perl for Bioinformatics



O'REILLY*

James Tisdall

A screenshot of a terminal window with a blue title bar and four tabs labeled 'Terminal'. The terminal content shows a user running 'which perl' and 'perl -v', followed by the output of the version command. The output includes the version number 'v5.8.0', the build target 'cygwin-multi-64int', the copyright '1987-2002, Larry Wall', and licensing information. It also provides instructions on how to find documentation using 'man perl' or 'perldoc perl', and a URL to the Perl Home Page. The prompt '\$' is followed by a cursor.

```
pbagos@thor ~  
$ which perl  
/usr/bin/perl  
  
pbagos@thor ~  
$ perl -v  
  
This is perl, v5.8.0 built for cygwin-multi-64int  
Copyright 1987-2002, Larry Wall  
  
Perl may be copied only under the terms of either the Artistic License or the  
GNU General Public License, which may be found in the Perl 5 source kit.  
  
Complete documentation for Perl, including FAQ lists, should be found on  
this system using `man perl' or `perldoc perl'. If you have access to the  
Internet, point your browser at http://www.perl.com/, the Perl Home Page.  
  
pbagos@thor ~  
$ █
```

One-liners

- `perl -ne 'BEGIN{$/=">";$"=":""}($d,$_)=/(.*?)\n(.+?)>?$/s;push @{$h{lc()}},$d if$_;END{for (keys%h){print">@{$h{$_}}$_"}' filename`
- `perl -ne 'BEGIN{$/=">"}if(/^s*(\S+)/){open(F,">$1")||warn"$1 write failed:$!\n";chomp;print F ">", $_}'`

Hello World

```
#!/usr/bin/perl
```

```
# To proto mas programma
```

```
print "Hello World\n";
```


Επιλογές

- `perl program.pl`
- `./program.pl`
- `perl -e '...perl program...'`

Greetings

```
#!/usr/bin/perl  
# To deytero mas programma  
print "What is your name?\n";  
$name =<STDIN>;  
chomp $name;  
print "Hello $name\n";
```

Scalars και Variables

- Το ποιο απλό είδος δεδομένων
- Μπορεί να είναι αριθμός (number) ή String
- Numbers (προσοχή στο 0 στην αρχή):
 - 5
 - -245
 - 1.25
 - 7.25e45
 - -12e44
 - -1.2e-25

Strings

- Single quoted (‘ ’)
- Double quoted (“ ”)
 - Escape (\t, \n, \r, \U, etc)
 - Interpolation

Παραδείγματα

- (``)

printf, sprintf

```
$x=3.7009
```

```
print $x;
```

```
printf (“%.3f\n”, $x);
```

```
$y=sprintf (“%.3f”, $x);
```

```
print “$y\n”;
```

Operators

- Numbers

`+, -, *, /, **, %, <, >, ==, !=`

- Strings

`., x, eq, ne, lt, gt, le, ge`

Προσοχή στην προτεραιότητα

Variables

- `$variable_name=String` or number or expression
- Ειδικές μεταβλητές (`$_`, `$/`, `$[`, `$1`, κλπ)
- `$number=5;`
- `$name="George";`
- `$exp=3*$number+($number+1);`
- `$a+=5;`
- `$b*=3;`
- `$c .= " ";`
- `++$a;` ή `$a++;`
- `$a--;`

substr, index

- `$name="Takis";`
- `$x=substr($name,0,1);`
- `$y=substr($name,0,1,"L");`
- `print "$name\t$x\t$y\n";`
- `$position=index($name, "k");`
- `$position=rindex($name, "k");`

chomp, chop

- chomp (\$x)
- chop (\$x)

Interpolation

```
$test='bla bla bla';
```

```
print "this is a $test\n";
```

```
print 'this is a $test\n';
```

```
print 'this is a \$test\n';
```

```
print "this is a ${test}bla bla\n";
```

Upper Case, Lower Case

```
$bigname="\U$name";
```

```
$name="name"; $bigname="\U$name";
```

```
$scapname="\u$name"
```

uc, lc, ucfirst, lcfirst

STDIN

```
$a=<STDIN>;
```

```
chomp ($a);
```

```
chomp ($a=<STDIN>);
```



```
while(<>)  
{  
    print $_;  
}
```

Εκτελέστε:

Perl program.pl file

Input-Output

- open FILEHANDLE, "filename";
- open IN, "/etc/passwd";
- \$x=<IN>;
- print \$x;
- close IN;
- open OUT, ">(>)tempfile";
- print OUT "bla bla bla\n";

@ARGV

- perl program.pl file1 file2 ...
- file1: \$ARGV[0]
- file2: \$ARGV[1]
- ...