Number of repetitions

```
$ egrep 's{3}' words # Words with three s characters
bossship
demigoddessship
goddessship
headmistressship
patronessship
$ egrep '[^aeiouy]{7}' words # Words with seven consonants
Eschscholtzia
$ egrep '^.{,15}$' words | wc -l # Words with a length up to 15
229079
$ egrep '^.{15,}$' words | wc -l # Words with a length of at least 15
12728
$ egrep '^.{14}.+$' words | wc -l # Same using + (one or more)
12728
$ egrep '^.{15,16}$' words | wc -l # Words with a length between 15 and 16
9302
$ egrep '^.{15}.?$' words | wc -l # Same using ? (one or zero)
9302
$
```

Back-references

```
$ egrep '^(.).*\1$' words | head # Words beginning and ending with same letter
aa
aba
abaca
abasia
abepithymia
abhiseka
abilla
ablepharia
ablepsia
abolla
$ egrep '^(.)(.)((.)\4)?\2\1$' words | head # Find 4-6 letter palindromes
acca
adda
affa
amma
anna
atta
boob
deed
degged
elle
$
```

Alternative matches

```
$ egrep '^(aba|ono).*(ly|ne)$' words # Words with alternate start/end parts
abactinally
abalone
abandonedly
abasedly
abashedly
abashlessly
onomatopoeically
onomatopoetically
$ echo $PATH |
> egrep '(^\.:)|(:\.:)|(:\.$)' >/dev/null && # Does the path contain .?
> echo Current directory in PATH
```

```
Current directory in PATH
$ expr match "$PATH" '.*:\([^:]*MiKTeX[^:]*\):.*'
/cygdrive/c/Program Files (x86)/MiKTeX 2.9/miktex/bin
$
```

List files, recurse directories

```
$ cd /usr/src/linux/kernel # Linux kernel source code directory
$ grep -l vfs *.c # List C files containing vfs
acct.c
audit.c
audit_fsnotify.c
audit_tree.c
audit_watch.c
auditsc.c
kexec_file.c
latencytop.c
module.c
sysctl.c
sysctl_binary.c
$ cd ../fs # Change to filesystem source code directory
$ grep -rl read_iter . | head -5 # Search recursively
./9p/vfs_file.c
./adfs/file.c
./affs/file.c
./afs/file.c
./aio.c
$
```

Complement matches

```
$ egrep '^[     ]*(/\*|\*)' *.c | head -5 # List comment lines
aio.c:/*
aio.c: *        An async IO implementation for Linux
aio.c: *        Written by Benjamin LaHaise <bcrl@kvack.org>
aio.c: *
aio.c: *        Implements an efficient asynchronous io interface.
$ egrep -v '^[  ]*(/\*|\*)' *.c | head -5 # List non-comment lines
aio.c:#define pr_fmt(fmt) "%s: " fmt, __func__
aio.c:
aio.c:#include <linux/kernel.h>
aio.c:#include <linux/init.h>
aio.c:#include <linux/errno.h>
$
```

Search for fixed strings

```
$ cd /usr/src/linux/fs # Linux filesystem source code directory
$ fgrep ... *.c | head -5 # Fixed string grep
binfmt_elf.c:   /* Sanity check the number of program headers... */
binfmt_elf.c:   /* ...and their total size. */
binfmt_elf.c:           case PT_LOPROC ... PT_HIPROC:
binfmt_elf.c:               case PT_LOPROC ... PT_HIPROC:
binfmt_elf.c: * followed by COUNT filenames in ASCII: "FILE1" NUL "FILE2" NUL...
$ grep -o 'st_[a-z]*' /usr/include/sys/stat.h  | # Obtain status fields
> sort -u >/tmp/statfields
$ head /tmp/statfields # List status fields
st_dev
st_ino
st_mode
st_nlink
st_uid
$ fgrep -f /tmp/statfields *.c | head -5 # List status field matches
```

```
compat.c:           tmp.st_dev = old_encode_dev(stat->dev);
compat.c:           tmp.st_ino = stat->ino;
compat.c:           if (sizeof(tmp.st_ino) < sizeof(stat->ino) && tmp.st_ino != stat->ino)
compat.c:           tmp.st_mode = stat->mode;
compat.c:           tmp.st_nlink = stat->nlink;
$
```