

Bash Bingo!

Feedback? Tweet at @deniseyu21

You will need...

- A printed out bingo board that has been generated with the `make_board.rb` script in github.com/deniseyu/bash-bingo
- A pencil, preferably with an eraser!
- [Optional] A pair. This is more fun with a buddy, but bingo can certainly be played solo.

How to Play

- Each slide will show a terminal, with a command that has been **redacted!**! Your job is to figure out what that command could be, based on the input, the arguments, and the output.
- Sometimes the output will be a new screen. This will be clearly indicated on the slide.
- There might be more than one correct answer sometimes. If you have two boxes that match, you may mark both off.
- To prevent pattern-matching on word length, all redaction rectangles are the longer than they would need to be. Guess based on the context, not how long you think the word underneath is!

How to Play

- Every slide will be numbered
- When you figured out what a command is, if you have that command on your board, draw a circle with the number of the slide inside it, to connect that filled-in box to the slide

How to Play

- If you get “bingo”, shout “BINGO!” As a group, review the slides together to check the results.

Win Conditions

- Traditional rules:
 - A full row of 5 squares is filled in. Vertical, horizontal, and diagonals all count.
- Extensions that will make this go faster:
 - Four corners
 - Any square-shaped block of four

Ready??

```
$ ls -la
total 0
drwxr-xr-x  2 deniseyu  staff   64 29 Jan 18:33 .
drwxr-xr-x 16 deniseyu  staff 512 29 Jan 18:23 ..
$ ??? some-new-dir
$ ls -la
total 0
drwxr-xr-x  3 deniseyu  staff   96 29 Jan 18:42 .
drwxr-xr-x 16 deniseyu  staff 512 29 Jan 18:23 ..
drwxr-xr-x  2 deniseyu  staff   64 29 Jan 18:42 some-new-dir
```



```
$ echo "i love cats" > file1  
$ echo "i love dogs" > file2  
$ ??? "cats" . -r  
./file1:i love cats
```

```
$ ??? -X GET http://deniseyu.io
<html>
<head><title>301 Moved Permanently</title></head>
<body>
<center><h1>301 Moved Permanently</h1></center>
<hr><center>nginx</center>
</body>
</html>
```

```

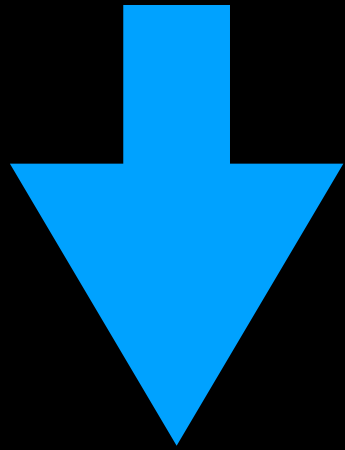
$ ll
total 16
drwxr-xr-x   4 deniseyu  staff   128 29 Jan 18:44 .
drwxr-xr-x  16 deniseyu  staff   512 29 Jan 18:23 ..
-rw-r--r--   1 deniseyu  staff    12 29 Jan 18:44
file1
-rw-r--r--   1 deniseyu  staff    12 29 Jan 18:44
file2
$ ??? file*
$ ll
total 0
drwxr-xr-x   2 deniseyu  staff    64 29 Jan 18:46 .
drwxr-xr-x  16 deniseyu  staff   512 29 Jan 18:23 ..

```

```
$ cd /usr/local/bin/  
$ ???  
/usr/local/bin
```

\$

???



(next screen)

```
Processes: 508 total, 2 running, 506 sleeping, 2330 threads
18:49:50
Load Avg: 2.23, 2.00, 1.94  CPU usage: 4.62% user, 3.8% sys, 92.28% idle
SharedLibs: 192M resident, 41M data, 17M linkedit.
MemRegions: 215162 total, 5818M resident, 134M private, 1863M shared.
PhysMem: 15G used (3315M wired), 655M unused.
VM: 2297G vsize, 1880M framework vsize, 31044897(0) swapins, 32581913(0) swapouts.
Networks: packets: 15381970/11G in, 13645343/6408M out. Disks: 8730546/243G read, 10057620/225G written.
```

PID	COMMAND	%CPU	TIME	#TH	#WQ	#PORT	MEM	PURG	CMPRS	PGRP	PPID	STATE	BOOSTS
376	iTerm2	20.6	39:21.84	9	6	642+	317M-	54M+	46M-	376	1	sleeping	*0[14417]
223	WindowServer	9.8	05:12:45	10	4	2660-	1389M	33M	114M	223	1	sleeping	*0[1]
40137	Signal Helpe	8.3	41:54.66	25	1	775	380M+	0B	138M	40128	40128	sleeping	*0[4]
77756	top	4.8	00:00.95	1/1	0	26	5008K	0B	0B	77756	76802	running	*0[1]
0	kernel_task	4.7	04:24:47	196/8	0	0	392M-	0B	0B	0	0	running	0[0]
147	hidd	4.0	44:05.32	6	3	327	6332K+	0B	3156K	147	1	sleeping	*0[1]
40133	Signal Helpe	1.8	05:54.33	9	1	163	228M	0B	58M	40128	40128	sleeping	*0[1]

```
$ pip3 --version
pip 19.3.1 from /Library/Frameworks/
Python.framework/Versions/3.8/lib/python3.8/site-
packages/pip (python 3.8)
$ ??? pip3
/Library/Frameworks/Python.framework/Versions/3.8/
bin/pip3
```

```
$ ??? +noall +answer deniseyu.io
deniseyu.io.      291  INA  185.199.111.153
deniseyu.io.      291  INA  185.199.108.153
deniseyu.io.      291  INA  185.199.109.153
deniseyu.io.      291  INA  185.199.110.153
```

```
$ echo "hi there" > original.txt  
$ ??? original.txt duplicate.txt  
$ cat duplicate.txt  
hi there
```



```
$ echo "pwd" > script.sh
$ ./script.sh
-bash: ./script.sh: Permission denied
$ ??? 700 script.sh
$ ./script.sh
/Users/deniseyu/workspace/some-directory
```

```
$ ls
hi.go
$ go build hi.go
$ ls
hi      hi.go
$      ??? hi
hi: Mach-0 64-bit executable x86_64
```

Two terminal shells!

Commands are run in the sequence indicated.

```
$ ??? -l 4444
```

1

```
hello cats
```

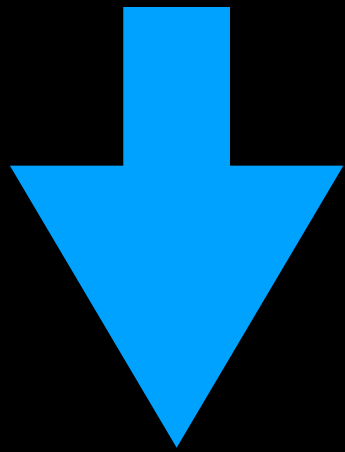
3

```
$ echo "hello cats" > txt
```

```
$ ??? localhost 4444 < txt
```

2

```
$ ??? echo
```



(next screen)

ECHO(1)

BSD General Commands Manual

ECHO(1)

NAME

echo -- write arguments to the standard output

SYNOPSIS

echo [-n] [string ...]


DESCRIPTION

The echo utility writes any specified operands, separated by single blank (` `) characters and followed by a newline (` \n `) character, to the standard output.

The following option is available:

-n Do not print the trailing newline character. This may also be achieved by appending ` \c ` to the end of the string, as is done by iBCS2 compatible

```
$ cat cats.txt  
siamese  
maine coon  
ragdoll  
domestic shorthair
```

```
$ cat cats.txt |   
domestic shorthair  
maine coon  
ragdoll  
siamese
```

```
$ pwd
/Users/deniseyu
$ ??? /usr/local/bin/
$ pwd
/usr/local/bin
$ ??? -
/Users/deniseyu
$ pwd
/Users/deniseyu
```

```
$ ??? -al
total 8
drwxr-xr-x  5 deniseyu  staff  160 29 Jan 21:46 .
drwxr-xr-x 16 deniseyu  staff  512 29 Jan 18:23 ..
-rw-r--r--  1 deniseyu  staff   46 29 Jan 21:40 cats.txt
-rw-r--r--  1 deniseyu  staff    0 29 Jan 21:46 dogs.txt
-rw-r--r--  1 deniseyu  staff    0 29 Jan 21:46 squirrels.yml
```

```
$ ls
cat.ascii.txt
$ ??? cat.ascii.txt
```

```
  ^-----^
 /   o   o  \
(  ==  ^  == )
 )           (
 (           )
( ( )   ( ) )
(__(__)__(__)__)
```



```
$ cat red-things.txt fruits.txt
apple
cherry
tomato
apple
cherry
kiwi
$ ??? red-things.txt fruits.txt
3c3
< tomato
---
> kiwi
```

```
$ ??? -b
```

Filesystem	512-blocks	Used	Available	Capacity	Mounted on
/dev/disk1s5	976695384	21107032	871698560	3%	/
devfs	374	374	0	100%	/dev
/dev/disk1s1	976695384	71894408	871698560	8%	/System/Volumes/Data
/dev/disk1s4	976695384	10487848	871698560	2%	/private/var/vm
map auto_home	0	0	0	100%	/System/Volumes/Data/home
/dev/disk1s3	976695384	1032216	871698560	1%	/Volumes/Recovery

```
$ ??? -cvf picnic.tar bread.txt cheese.txt fruits.txt  
a bread.txt  
a cheese.txt  
a fruits.txt  
$ ls  
bread.txt  cheese.txt  fruits.txt  picnic.tar
```

```
$ ??? bandit24@bandit.labs.overthewire.org -p 2220
```

```
This is a OverTheWire game server. More information on http://www.overthewire.org/wargames
```

```
$ cat cheese.txt  
stilton  
cheddar  
swiss
```

```
$ cat cheese.txt |  -l  
3
```

```
$ ??? hello.txt  
$ file hello.txt  
hello.txt: empty
```

```
$ ??? google.com
```

```
64 bytes from 172.217.1.14: icmp_seq=0 ttl=50 time=24.039 ms  
64 bytes from 172.217.1.14: icmp_seq=1 ttl=50 time=21.084 ms  
64 bytes from 172.217.1.14: icmp_seq=2 ttl=50 time=31.683 ms  
64 bytes from 172.217.1.14: icmp_seq=3 ttl=50 time=16.399 ms
```

```
root@690ed6f97b10:/# ???  
HOSTNAME=690ed6f97b10  
PWD=/  
HOME=/root  
TERM=xterm  
SHLVL=1  
PATH=/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin  
_=/usr/bin/env
```


\$ **???**

```
lo0: flags=8049<UP,LOOPBACK,RUNNING,MULTICAST> mtu 16384
    options=1203<RXCSUM,TXCSUM,TXSTATUS,SW_TIMESTAMP>
    inet 127.0.0.1 netmask 0xff000000
    inet6 ::1 prefixlen 128
    inet6 fe80::1%lo0 prefixlen 64 scopeid 0x1
    nd6 options=201<PERFORMNUD,DAD>
gif0: flags=8010<POINTOPOINT,MULTICAST> mtu 1280
stf0: flags=0<> mtu 1280
en0: flags=8863<UP,BROADCAST,SMART,RUNNING,SIMPLEX,MULTICAST>
mtu 1500
    options=400<CHANNEL_IO>
    ether 98:5a:eb:8f:0d:02
    inet6 fe80::1472:fb8c:76a7:3945%en0 prefixlen 64 secured
scopeid 0x4
    inet 192.168.0.20 netmask 0xffffffff00 broadcast 192.168.0.255
    nd6 options=201<PERFORMNUD,DAD>
    media: autoselect
    status: active
```

```
$ cat cheese.txt
```

```
stilton
```

```
cheddar
```

```
swiss
```

```
$ cat cheese.txt | ??? 's/stilton/brie/g'
```

```
brie
```

```
cheddar
```

```
swiss
```

```
$ ??? -s $(pwd)/books ~/Documents/books  
$ ls -la ~/Documents/books  
lrwxr-xr-x  1 deniseyu  staff  46 29 Jan 22:37 /Users/  
deniseyu/Documents/books -> /Users/deniseyu/workspace/  
some-directory/books  
$ file ~/Documents/books  
/Users/deniseyu/Documents/books: directory
```

```
$ ls -la /tmp/
total 12
drwxrwxrwt 1 root root 4096 Jan 30 03:44 .
drwxr-xr-x 1 root root 4096 Jan 30 03:43 ..
-rw-r--r-- 1 root root    3 Jan 30 03:44 file
$ ??? clara /tmp/file
$ ls -la /tmp/
total 12
drwxrwxrwt 1 root root 4096 Jan 30 03:44 .
drwxr-xr-x 1 root root 4096 Jan 30 03:43 ..
-rw-r--r-- 1 clara root    3 Jan 30 03:44 file
```

```
$ ??? aux
USER      PID  %CPU  %MEM    VSZ   RSS  TTY      STAT  START   TIME  COMMAND
root        1   0.0   0.1  18508   3456 pts/0    Ss     03:43   0:00  /bin/
bash
root      523   0.0   0.4  52072   8400 pts/0    T      03:47   0:00  vim
root      524   0.0   0.1  34400   2916 pts/0    R+     03:47   0:00  ps aux
```

```
$ ps aux
```

USER	PID	%CPU	%MEM	VSZ	RSS	TTY	STAT	START	TIME	COMMAND
root	1	0.0	0.1	18508	3456	pts/0	Ss	03:43	0:00	/bin/bash
root	523	0.0	0.4	52072	8400	pts/0	T	03:47	0:00	vim
root	524	0.0	0.1	34400	2916	pts/0	R+	03:47	0:00	ps aux

```
$     ??? -9 523
```

```
$ ps aux
```

USER	PID	%CPU	%MEM	VSZ	RSS	TTY	STAT	START	TIME	COMMAND
root	1	0.0	0.1	18508	3456	pts/0	Ss	03:43	0:00	/bin/bash
root	525	0.0	0.1	34400	2940	pts/0	R+	03:49	0:00	ps aux

\$

???

COMMAND	PID	USER	FD	TYPE	DEVICE	SIZE/OFF	NODE	NAME
bash	1	root	cwd	DIR	0,112	4096	2359919	/tmp
bash	1	root	rtd	DIR	0,112	4096	2491404	/
bash	1	root	txt	REG	0,112	1113504	2359360	/bin/bash

```
$ ??? -a
procs -----memory----- ---swap-- -----io----- -system-- ---cpu-----
r  b   swpd   free  inact active   si   so    bi    bo    in    cs  us  sy  id  wa  st
2  0       0 1288224 267128 396832    0    0   19    9   90   164  0  0 100  0
0
```

```
$ ??? -s
2037260 K total memory
288072 K used memory
396996 K active memory
267128 K inactive memory
1287972 K free memory
22636 K buffer memory
438580 K swap cache
1048572 K total swap
```



```
$ cat cheese.txt
```

```
stilton
```

```
stilton
```

```
cheddar
```

```
swiss
```

```
swiss
```

```
swiss
```

```
$ cat cheese.txt | ???
```

```
stilton
```

```
cheddar
```

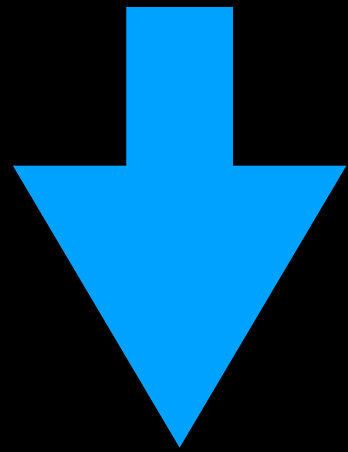
```
swiss
```

```

$ ??? df
execve("/bin/df", ["df"], 0x7ffd4c694ac0 /* 9 vars */) = 0
brk(NULL) = 0x55ec96cec000
access("/etc/ld.so.nohwcap", F_OK) = -1 ENOENT (No such file or directory)
access("/etc/ld.so.preload", R_OK) = -1 ENOENT (No such file or directory)
openat(AT_FDCWD, "/etc/ld.so.cache", O_RDONLY|O_CLOEXEC) = 3
fstat(3, {st_mode=S_IFREG|0644, st_size=8686, ...}) = 0
mmap(NULL, 8686, PROT_READ, MAP_PRIVATE, 3, 0) = 0x7f324b839000
close(3) = 0
access("/etc/ld.so.nohwcap", F_OK) = -1 ENOENT (No such file or directory)
openat(AT_FDCWD, "/lib/x86_64-linux-gnu/libc.so.6", O_RDONLY|O_CLOEXEC) = 3
read(3, "\177ELF\2\1\1\3\0\0\0\0\0\0\0\0\3\0>\0\1\0\0\0\260\34\2\0\0\0\0\0"...
, 832) = 832
fstat(3, {st_mode=S_IFREG|0755, st_size=2030544, ...}) = 0

```

\$??? books.txt



(next screen)

Harry Potter & The Half-Blood Prince
Little Women
The Three Body Problem
Kafka on the Shore
Americanah
books.txt (END)

```
$ ls
cat-books.txt      fairy-tales.txt    horse-books.txt
scary-stories.txt  storybooks.txt
$     ???     . -name "*books*"
./storybooks.txt
./horse-books.txt
./cat-books.txt
```

```
$ ??? "such great content" > article.txt  
$ cat article.txt  
such great content
```

```
$ ??? | head
 1 git clone --depth=1 https://github.com/Bash-it/
bash-it.git ~/.bash_it
 2 xcode-select --install
 3 git clone --depth=1 https://github.com/Bash-it/
bash-it.git ~/.bash_it
 4 ~/.bash_it/install.sh
 5 exit
 6 exit
 7 ruby -e "$(curl -fsSL https://
raw.githubusercontent.com/Homebrew/install/master/
install)"
 8 brew install gnupg
```

```
$ ??? -c the-road-not-taken.txt > the-road-not-  
taken.txt.gz  
$ ls -la  
total 28  
drwxrwxrwt 1 root root 4096 Jan 30 04:27 .  
drwxr-xr-x 1 root root 4096 Jan 30 03:43 ..  
-rw-r--r-- 1 root root 730 Jan 30 04:27 the-road-not-  
taken.txt  
-rw-r--r-- 1 root root 450 Jan 30 04:28 the-road-not-  
taken.txt.gz
```

```
$ ??? df
df is /bin/df
$ ??? which
which is /usr/bin/which
$ ??? apt-get
apt-get is hashed (/usr/bin/apt-get)
```



```
$ ??? moo=echo  
$ moo "this is fun"  
this is fun
```