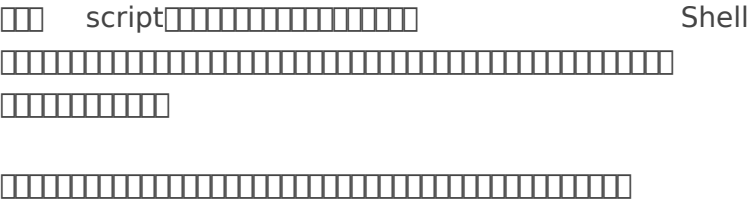
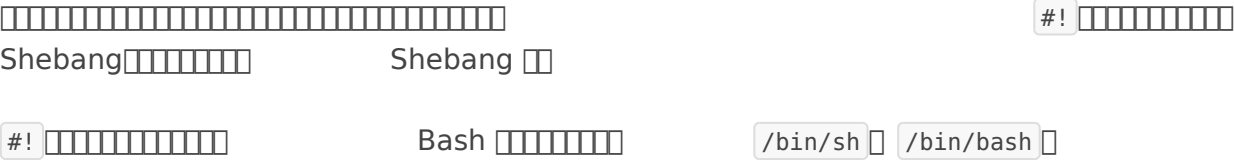




- Shebang `#!`
- `#!/usr/bin/perl`
- env `env`
- `env`
- `env`
- shift `shift`
- getopts `getopts`
- `getopts` `--`
- exit `exit`
- `exit`
- source `source`
- `alias` `alias`
- `alias`



# Shebang `#!`



```
#!/bin/sh
#
#!/bin/bash
```

#!/

Bash /bin

```
#!/usr/bin/env bash
```

env /usr/bin Bash env

Shebang  
script.sh Shebang

```
$ ./script.sh
```

script.sh .sh

Shebang

```
$ /bin/sh ./script.sh
#
$ bash ./script.sh
```

Shebang

```
#
$ chmod +x script.sh

#
$ chmod +rx script.sh
#
$ chmod 755 script.sh

#
$ chmod u+rx script.sh
```

755 700

path/script.sh

\$PATH

Bash

\$PATH

~/bin

~/bin

\$PATH

```
export PATH=$PATH:~/bin
```

\$PATH

~/bin

\$PATH

~/ .bashrc

.bashrc

```
$ source ~/.bashrc
```

```
$ script.sh
```

script.sh

\$PATH

## env

env

/usr/bin/env

/usr/bin

#!/usr/bin/env NAME

Shell

\$PATH

NAME

/usr/bin/env bash

bash

bash

\$PATH

Node.js

Shebang

```
#!/usr/bin/env node
```

env

- -i, --ignore-environment
- -u, --unset=NAME
- --help
- --version

Shell

```
$ env -i /bin/sh
```



Bash

```
#   
echo 'Hello World!'  
  
echo 'Hello World!' # 
```



```
$ script.sh word1 word2 word3
```

- 
- ~
- 
- 
- 

```
#!/bin/bash  
# script.sh  
  
echo "  " $@  
echo "  " $#  
echo '$0 = ' $0  
echo '$1 = ' $1
```

```
echo '$2 = ' $2
echo '$3 = ' $3
```

[illegible]

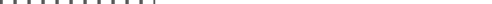
```
$ ./script.sh a b c
#####a b c
#####3
$0 = script.sh
$1 = a
$2 = b
$3 = c
```

for

```
#!/bin/bash

for i in "$@"; do
    echo $i
done
```

\_\_\_\_\_ \$@ \_\_\_\_\_ for \_\_\_\_\_



```
$ ./script.sh "a b"
```

Diagram illustrating memory layout for variables and strings:

- `Bash` (3 bytes)
- `"a b"` (5 bytes)
- `$1` (3 bytes)
- `a b` (11 bytes)

shift ☐

Diagram illustrating a shift register structure. The top row is labeled "shift" and contains 16 empty cells. The bottom row contains 16 cells, some of which are labeled with values: \$2, \$1, \$3, \$2, \$4, \$3, and \$1. The \$1 label is in the 16th cell, and the other labels are in the 10th through 15th cells.

while  shift

```
#!/bin/bash

echo "aaaa $# aaa"
```

```
while [ "$1" != "" ]; do
    echo "[] $# []"
    echo "[][]$1"
    shift
done
```

[][][] shift [] while []

shift [] 1 []

shift 3

[][][] \$4 [] \$1 []

# getopts []

getopts [] while

[][][] - []

getopts optstring name

[][][] optstring

[][][] -l [] -h [] -a [] -a

[][][] -l [] -h [] getopts [] lha: [] a

[][][] getopts []

: [] getopts [] name [] l [] h [] a []

[][][]

```
while getopts 'lha:' OPTION; do
    case "$OPTION" in
        l)
            echo "linuxconfig"
            ;;

        h)
            echo "h stands for h"
            ;;

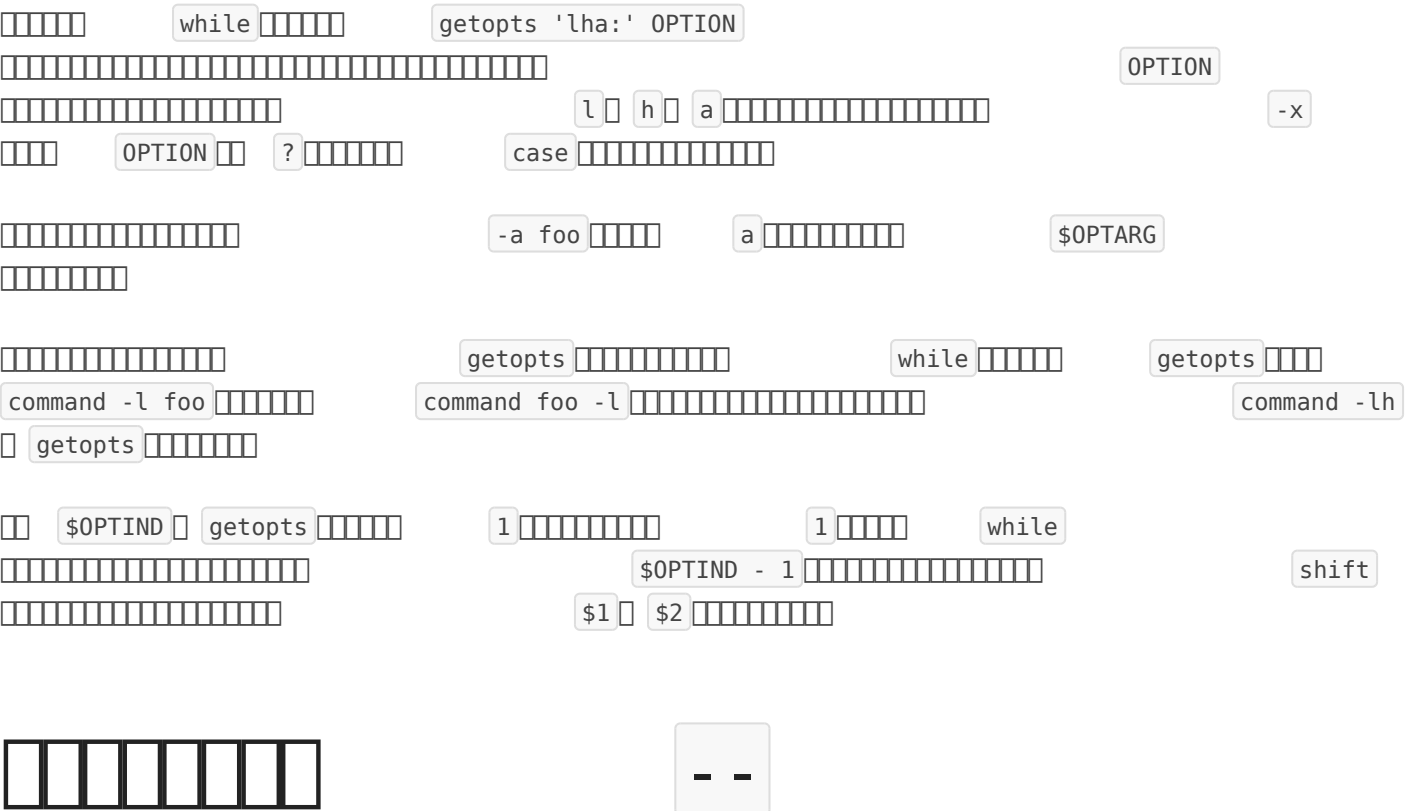
        a)
            echo "a stands for a"
            ;;
    esac
done
```

```

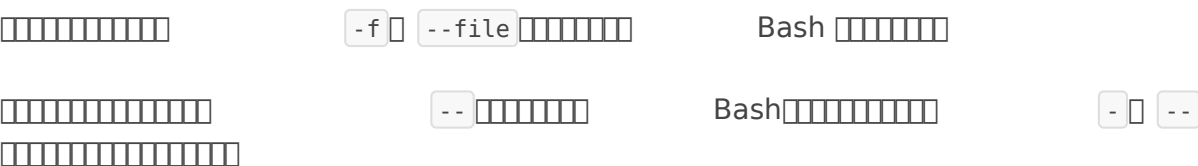
    avalue="$OPTARG"
    echo "The value provided is $OPTARG"

    ;;
?)
    echo "script usage: $(basename $0) [-l] [-h] [-a somevalue]" >&2
    exit 1
    ;;
esac
done
shift "$(($OPTIND - 1))"

```



```
$ cat -f
$ cat --file
```



```
$ cat -- -f
$ cat -- --file
```

aaaaaaaaaa  
aaaaaaaaaa

-f --file

--

- --

aaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaa

--

```
$ ls -- $myPath
```

aaaaaa

--

\$myPath

```
$ myPath="-l"
$ ls -- $myPath
ls: -l: 00000000
```

aaaaaa

myPath

-l

--

\$myPath

"

aaaaaa "

aaaaaaaaaaaaaaaaaaaaaaaa

--hello

--

```
$ grep -- "--hello" example.txt
```

aaaa

example.txt

--hello

--

grep

--hello

# exit

exit

Shell

```
$ exit
```

aaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaa

exit

```
# 00000000
$ exit 0

# 00000001
$ exit 1
```

aaaaaaaaaaaaaaaaaaaaaaaa

0

1

2

126

aaaaaaaaaa

127

N

128 + N

aaaaaaaaaa

0

```
if [ $(id -u) != "0" ]; then
    echo "XXXXXXXXXXXX"
    exit 1
fi
```

|  |  |  |  |  |  |
|--|--|--|--|--|--|
|  |  |  |  |  |  |
|--|--|--|--|--|--|

```
cd /path/to/somewhere
if [ "$?" = "0" ]; then
    rm *
else
    echo "XXXXXXXX" 1>&2
    exit 1
fi
```

```
if cd /path/to/somewhere; then
    rm *
else
    echo "Could not change directory! Aborting." 1>&2
    exit 1
fi
```

```
# 環境変数定義
cd /path/to/somewhere && rm *

# 環境変数定義
cd /path/to/somewhere || exit 1
```

## source

source

```
$ source .bashrc
```

source

Shell

Shell

source

export

```
#!/bin/bash
# test.sh
echo $foo
```

\$foo

```
# Shell 環境変数 foo
$ foo=1

# 1
$ source test.sh
1

# 環境変数
$ bash test.sh
```

Shell

foo

export

source

source

```
#!/bin/bash

source ./lib.sh
```

```
function_from_lib
```

```
source
```

```
source
```

```
source
```

```
.
```

```
$ . .bashrc
```

```
alias
```

# alias

```
alias
```

```
alias
```

```
alias
```

```
alias NAME=DEFINITION
```

```
alias
```

```
NAME
```

```
DEFINITION
```

```
alias
```

```
grep
```

```
search
```

```
alias search=grep
```

```
alias
```

```
today
```

```
$ alias today='date +"%A, %B %-d, %Y"'
```

```
$ today
```

```
Wed, 06 Jun 2020
```

```
alias
```

```
rm
```

```
$ alias rm='rm -i'
```

```
alias
```

```
rm
```

```
rm -i
```

```
alias
```

```
$ alias echo='echo It says: '
```

```
$ echo hello world
```

```
It says: hello world
```

```
alias
```

```
echo
```

```
echo
```

████████████████████████████████████████████████████████████████████████████████  
████████████████████████████████████████████████████████████████████████████████

~/ .bashrc

███ alias ██████████

\$ alias

unalias ████████

\$ unalias lt

████████

- [How to use getopt to parse a script options](#), Egidio Docile

---

██ #2  
□ cocobook-sync ██ 2026-10-28 10:52:05 UTC  
□ cocobook-sync ██ 2026-10-28 11:27:21 UTC