

```
test    [ ]
        -f file,
        -d (directory)
        -e (file / directory)
        -s (file exists and not empty),
        -r readable,
        -w writable,
        -x executable
```

This is used for evaluating conditions, like checking strings, number and files

- spaces inside are mandatory
- [ ] = test
- sh (Shell)

```
ex. if test -e $filename
    if [ -e $filename ]
```

```
=====
[[ ]] - Advanced Test (Bash, Zsh, Ksh)
```

More powerful

Key points

- Safer for strings
- Supports Regex (Regular Expressions)
- Supports logical Operator ( &&, || )
- It won't work with Sh (Shell)

Compare the String

```
if [[ $choice == 'y' ]]
then
    echo "YES YES YES"
else
    echo "NO"
fi
```

```
=====
( ) -> subshell Execution
```

Runs a command in subshell (a separate Process), so environment changes don't affect the current shell.

Key points

- Useful when you want to isolate environment changes
- Changes don't persist

ex.

```
(cd / && ls)
```

```
=====
(( )) -> Arithmetic Evaluations
```

integer arithmetic and comparisons

Keypoints

- No need for \$ on variable names inside (( ));
- Supports c style operators ( +, -, \*, / , %, ++, --) etc
- Returns an exit status (0 if success, 1 if failed), so you can use with if

ex.

increment of x variable by 1 ---->> ((x++))

=====  
{ } - Command Grouping in the same Shell

Group multiple commands in the same shell.

Unlike ( ) which runs a subshell, {} doesn't create a subshell.

changes in variable, directories ,etc persists

- ; is required or newlines between commands.
- space after opening { and before closing }