

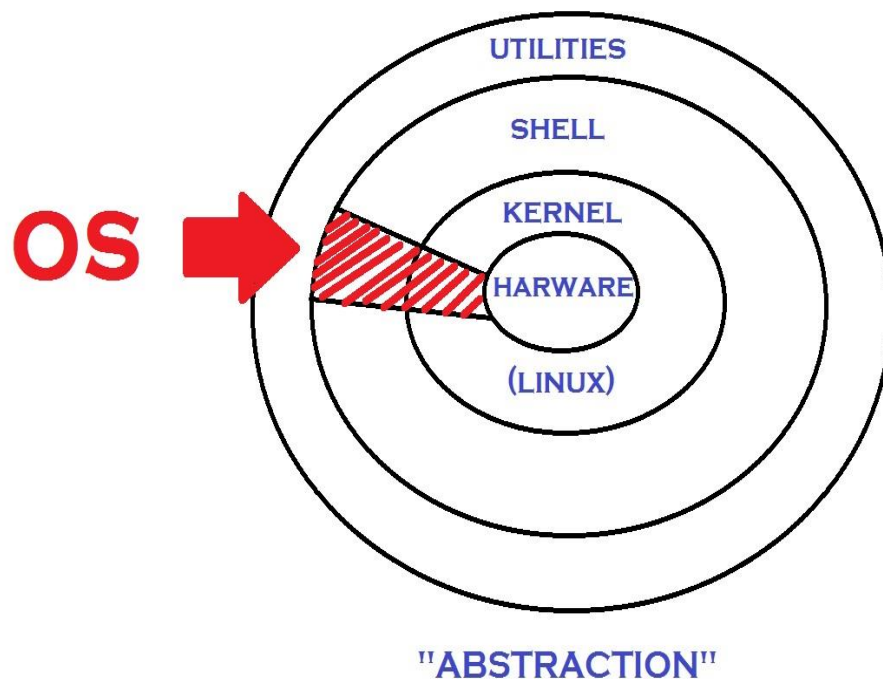
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Notes

- (1) Kernel guarantee file system security (firewall, etc.)
- (2) The shell is in the interface between user and the Kernel.
- (3) Hardware is a concrete material, hides the complexity layers of abstraction.
- (4) Shell is the outermost layer of the Operating System (OS).



#Basic Operation of a Shell : (REPL)

- (1) Read
- (2) Evaluate
- (3) Print
- (4) Loop

#REPL Paradigm :

(1) Tokenization :

A. Token - String with some kind of meaning, structures as pairs

(ex : “rm” + “Whatever you want to delete”)

B. Lexical Analysis

x = a + b * 2;

[(identifier, x), (operator, =), (a, identifier)...,(literal, 2), (separator, ;)]

C. “ls (null operator) -l”

“rm (predefined separator) test.txt”

Character token array = [“rm”, “test.txt”]

(2) Parsing :

A. Access internal and external commands

B. “rm test” //test is a directory (False)

“rm -r test” //(True), r = recursive

(3) Shell : Read - Evaluate - Print - Loop