**TENTH SCRIPT**

* **Functions:**
* Small pieces of code which you can call within your own program.
* Group of commands that you call in our script using a single name
* Do not want to have duplicate your code at multiple places in the script
* Function helps you to utilize the programming principle of DRY (Don't Repeat Yourself) in contrast to WET i.e. Waste Everyone's Time
* Syntax of defining function in shell scripting

#!/bin/bash

log() {

echo 'Function definition using method 1'

}

log # calling the function

function log2 {

echo 'Function definition using method 2'

}

log2 # calling the function

* The reserved keyword "local" (shell built-in) is used to declare variables with scope inside the function only.
* If we declare a variable inside a function omitting the 'local' keyword, that variable will automatically have a local scope
* Use unique variable names throughout your script
* Passing an variable to a function:

log() {

local VERBOSE="${1}" #chop off the value assigned to VERBOSE

shift

local MESSAGE="${@}"

if [[ "${VERBOSE}" = 'true' ]]

then

echo "${MESSAGE}"

fi

}

VERBOSITY='true'

log "${VERBOSITY}" 'Hello!' #this will not get printed because verbose is not set

log "${VERBOSITY}" 'This is fun' #this will get printed because verbose is set

* 'readonly' shell built-in makes a variable unchangeable. The variable assigned with readonly label cannot be changes during the duration of the script. That is, inside or outside the function.
* Sending message to system logs using logger.
* logger - a shell command interface to the syslog(3) system log module
* Logger -t - allows us to write/ log every line with a specified tag
* It's better to use a centralized logging system for storing the logs than to build or use the local log system i.e in linux its stored at /var/log/messages to prevent attackers from clearing their tracks