# ASSESSMENT- 2

# Assignment: Bash Shell Basics

## Task 1: File and Directory Manipulation

1. Create a directory called "my_directory".
   *mkdir my_directory*
2. Navigate into the "my_directory".
   *cd my_directory*
3. Create an empty file called "my_file.txt".
   *touch my_file.txt*
4. List all the files and directories in the current directory.
   *ls*
5. Rename "my_file.txt" to "new_file.txt".
   *mv my_file.txt new_file.txt*
6. Display the content of "new_file.txt" using a pager tool of your choice.
   *less new_file.txt*
7. Append the text "Hello, World!" to "new_file.txt".
   *echo "Hello, World!" >> new_file.txt*
8. Create a new directory called "backup" within "my_directory".
   *mkdir backup*
9. Move "new_file.txt" to the "backup" directory.
   *mv new_file.txt backup/*
10. Verify that "new_file.txt" is now located in the "backup" directory.
    *ls backup*
11. Delete the "backup" directory and all its contents.
    *rm -r backup*

Output for *less new_file.txt:*

```
                    SUMMARY OF LESS COMMANDS

      Commands marked with * may be preceded by a number, N.
      Notes in parentheses indicate the behavior if N is given.
      A key preceded by a caret indicates the Ctrl key; thus ^K is ctrl-K.

 h  H                    Display this help.
 q  :q  Q  :Q  ZZ        Exit.
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                         MOVING

 e  ^E  j  ^N  CR  *  Forward  one line   (or N lines).
 y  ^Y  k  ^K  ^P  *  Backward one line   (or N lines).
 f  ^F  ^V  SPACE  *  Forward  one window (or N lines).
 b  ^B  ESC-v      *  Backward one window (or N lines).
 z                 *  Forward  one window (and set window to N).
 w                 *  Backward one window (and set window to N).
 ESC-SPACE         *  Forward  one window, but don't stop at end-of-file.
 d  ^D             *  Forward  one half-window (and set half-window to N).
 u  ^U             *  Backward one half-window (and set half-window to N).
 ESC-)  RightArrow *  Right one half screen width (or N positions).
 ESC-(  LeftArrow  *  Left  one half screen width (or N positions).
 ESC-}  ^RightArrow   Right to last column displayed.
 ESC-{  ^LeftArrow    Left  to first column.
 F                    Forward forever; like "tail -f".
 ESC-F                Like F but stop when search pattern is found.
 r  ^R  ^L            Repaint screen.
 R                    Repaint screen, discarding buffered input.
      -------------------------------------------------
      Default "window" is the screen height.
      Default "half-window" is half of the screen height.
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HELP -- Press RETURN for more, or q when done
```

Deleting Backup:



```
┌──(root㉿Information-Security-With-Kali-Linux-17-20BCI0117)-[~/my_directory]
└─# rm -r backup
```

Showing the proof of deleted backup:



```
┌──(root㉿Information-Security-With-Kali-Linux-17-20BCI0117)-[~/my_directory]
└─# ls backup
ls: cannot access 'backup': No such file or directory
```
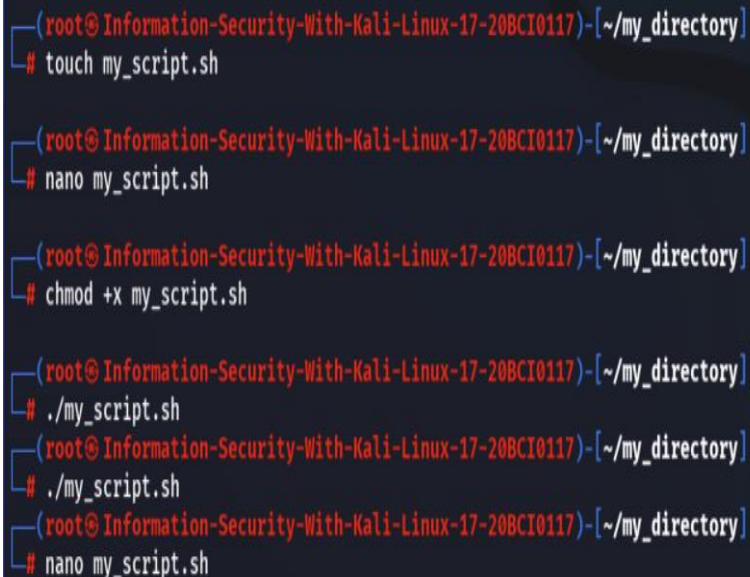
## Task 2: Permissions and Scripting

- Create a new file called "my_script.sh".
  *touch my_script.sh*

- Edit "my_script.sh" using a text editor of your choice and add the following lines:
  **bash**

  **#!/bin/bash**
  **echo "Welcome to my script!"**
  **echo "Today's date is $(date)."**
  **Save and exit the file.**

  *nano my_script.sh*

- Make "my_script.sh" executable.
  *chmod +x my_script.sh*
- Run "my_script.sh" and verify that the output matches the expected result.
  *./my_script.sh*

```
┌──(root💀Information-Security-With-Kali-Linux-17-20BCI0117)-[~/my_directory]
└─# touch my_script.sh

┌──(root💀Information-Security-With-Kali-Linux-17-20BCI0117)-[~/my_directory]
└─# nano my_script.sh

┌──(root💀Information-Security-With-Kali-Linux-17-20BCI0117)-[~/my_directory]
└─# chmod +x my_script.sh

┌──(root💀Information-Security-With-Kali-Linux-17-20BCI0117)-[~/my_directory]
└─# ./my_script.sh
┌──(root💀Information-Security-With-Kali-Linux-17-20BCI0117)-[~/my_directory]
└─# ./my_script.sh
┌──(root💀Information-Security-With-Kali-Linux-17-20BCI0117)-[~/my_directory]
└─# nano my_script.sh
```

**Writing inside "my_script.sh" using *nano my_script.sh***



**I tried all the commands to run the "my_script.sh" but didn't get any output.**

# Task 3: Command Execution and Pipelines

- List all the processes running on your system using the "ps" command.
  *ps aux*
- Use the "grep" command to filter the processes list and display only the processes with "bash" in their name.
  *ps aux | grep bash*
- Use the "wc" command to count the number of lines in the filtered output.
  *ps aux | grep bash | wc*

```
┌──(root㉿Information-Security-With-Kali-Linux-17-20BCI0117)-[~/my_directory]
└─# ps aux
USER         PID %CPU %MEM    VSZ   RSS TTY      STAT START   TIME COMMAND
root           1  0.0  0.2 103252 10432 ?       Ss   May21   0:22 /sbin/init
root          75  0.0  2.7 159832 107364 ?      Ss   May21   6:38 /lib/systemd/systemd-journa
root          98  0.0  0.1  23496  4484 ?       Ss   May21   0:01 /lib/systemd/systemd-udevd
root         111  0.0  0.1   8252  4292 ?       Ss   May21   0:27 /usr/sbin/haveged --Foregro
root         125  0.0  0.1 236844  4784 ?       Ssl  May21   0:29 /usr/libexec/accounts-daemo
root         126  0.0  0.0   6600  1640 ?       Ss   May21   0:04 /usr/sbin/cron -f
message+     127  0.0  0.0   9904  3832 ?       Ss   May21   0:01 /usr/bin/dbus-daemon --syst
polkitd      131  0.0  0.1 236892  7452 ?       Ssl  May21   0:00 /usr/lib/polkit-1/polkitd -
syslog       133  0.0  0.1 156496  3984 ?       Ssl  May21   0:23 /usr/sbin/rsyslogd -n -iNON
root         134  0.0  0.1  16560  5708 ?       Ss   May21   0:02 /lib/systemd/systemd-logind
root         135  0.0  0.0   6916  2120 ?       Ss   May21   1:55 /bin/bash /usr/bin/vnccheck
root         145  0.0  0.3 258116 11852 ?       Ssl  May21   0:14 /usr/sbin/NetworkManager --
root         230  0.0  0.0   5860  2632 ?       Ss   May21   0:00 /sbin/dhclient -4 -v -i -pf
root         319  0.0  0.0   2608  1140 ?       Ss   May21   0:00 /opt/nessus/sbin/nessus-ser
root         323  0.0  0.4 117300 17944 ?       Ssl  May21   0:00 /usr/bin/python3 /usr/share
root         327  0.0  1.3 161372 52068 ?       Sl   May21  74:15 nessusd -q
root         332  0.0  0.0   5488   872 pts/0   Ss+  May21   0:00 /sbin/agetty -o -p -- \u --
root         337  0.0  0.1  15588  5832 ?       Ss   May21   0:00 sshd: /usr/sbin/sshd -D [li
_rpc         341  0.0  0.0   7840  2488 ?       Ss   May21   0:03 /sbin/rpcbind -f -w
statd        343  0.0  0.0   4520  1260 ?       Ss   May21   0:00 /sbin/rpc.statd
root         397  0.0  0.1 240200  6232 ?       Ssl  May21   0:00 /usr/sbin/gdm3
root         407  0.0  0.2  19136 11528 ?       Ss   May21   0:00 /usr/bin/perl /usr/bin/vncs
root         408  0.0  1.9 268732 77116 ?       Ss   May21   1:18 /usr/bin/Xtigervnc :1 -loca
root         409  0.0  0.0   2568   768 ?       Ss   May21   0:00 /bin/sh /root/.vnc/xstartup
root         410  0.0  7.8 3324804 306976 ?     Rl   May21   7:59 /usr/bin/gnome-shell --x11
root         442  0.0  0.0  10084  1480 ?       S    May21   0:00 dbus-launch --autolaunch=4f
root         443  0.0  0.0   9480  2332 ?       Ss   May21   0:00 /usr/bin/dbus-daemon --sysl
root         452  0.0  0.1 311388  5432 ?       Sl   May21   0:00 /usr/libexec/at-spi-bus-lau
root         457  0.0  0.0   9084  2928 ?       S    May21   0:00 /usr/bin/dbus-daemon --conf
root         487  0.0  0.1 237604  5724 ?       Sl   May21   0:00 /usr/libexec/gvfsd
root         493  0.0  0.1 380400  4688 ?       Sl   May21   0:00 /usr/libexec/gvfsd-fuse /ro
root      504673  0.0  0.0   7180  3044 pts/1   S    13:09   0:00 bash
root      504688  0.0  0.0   7180  2128 pts/1   S    13:09   0:00 bash
root      504689  0.0  0.0   7296  3048 pts/1   S    13:09   0:00 bash
root      504920  0.0  0.0   2568   784 pts/1   S    13:14   0:00 sh my_script.sh
root      504922  0.0  0.0   7180  2984 pts/1   S    13:14   0:00 bash
root      504933  0.0  0.0   6916  2428 pts/1   S    13:14   0:00 bash my_script.sh
root      504934  0.0  0.0   7180  2892 pts/1   S    13:14   0:00 bash
root      505022  0.0  0.0   5456   756 ?       S    13:16   0:00 sleep 1
root      505023  0.0  0.0   9768  2484 pts/1   R+   13:16   0:00 ps aux

┌──(root㉿Information-Security-With-Kali-Linux-17-20BCI0117)-[~/my_directory]
└─# ps aux | grep bash
root         135  0.0  0.0   6916  2120 ?       Ss   May21   1:55 /bin/bash /usr/bin/vnccheck
root      503606  0.0  0.0   7408  3000 pts/1   Ss   12:48   0:00 bash
root      504672  0.0  0.0   7408  2064 pts/1   S    13:09   0:00 bash
root      504673  0.0  0.0   7180  3044 pts/1   S    13:09   0:00 bash
root      504688  0.0  0.0   7180  2128 pts/1   S    13:09   0:00 bash
root      504689  0.0  0.0   7296  3048 pts/1   S    13:09   0:00 bash
root      504922  0.0  0.0   7180  2984 pts/1   S    13:14   0:00 bash
root      504933  0.0  0.0   6916  2428 pts/1   S    13:14   0:00 bash my_script.sh
root      504934  0.0  0.0   7180  2992 pts/1   S    13:14   0:00 bash
root      505041  0.0  0.0   6456  1448 pts/1   S+   13:16   0:00 grep --color=auto bash

┌──(root㉿Information-Security-With-Kali-Linux-17-20BCI0117)-[~/my_directory]
└─# ps aux | grep bash | wc -1
wc: invalid option -- '1'
Try 'wc --help' for more information.

┌──(root㉿Information-Security-With-Kali-Linux-17-20BCI0117)-[~/my_directory]
└─# ps aux | grep bash | wc
     10      114      774
```