

# Assessment-2

## Assignment: Bash Shell Basics

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### Task 1: File and Directory Manipulation

1. Create a directory called "my\_directory".

```
mkdir my_dir
```

2. Navigate into the "my\_directory".

```
cd my_dir
```

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.

```
cat 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:

```
Shell ▾ × >_ Console × +
~/ShamelessTechnologicalApplicationserver$ echo assessment-2
assessment-2
~/ShamelessTechnologicalApplicationserver$ mkdir my_dir
~/ShamelessTechnologicalApplicationserver$ cd my_dir
~/ShamelessTechnologicalApplicationserver/my_dir$ touch my_file.txt
~/ShamelessTechnologicalApplicationserver/my_dir$ ls
my_file.txt
~/ShamelessTechnologicalApplicationserver/my_dir$ mv my_file.txt new_file.txt
~/ShamelessTechnologicalApplicationserver/my_dir$ cat new_file.txt
~/ShamelessTechnologicalApplicationserver/my_dir$ echo "Hello, World!" >> new_file.txt
~/ShamelessTechnologicalApplicationserver/my_dir$ mkdir backup
~/ShamelessTechnologicalApplicationserver/my_dir$ mv new_file.txt backup/
~/ShamelessTechnologicalApplicationserver/my_dir$ ls backup
new_file.txt
~/ShamelessTechnologicalApplicationserver/my_dir$ rm -r backup
~/ShamelessTechnologicalApplicationserver/my_dir$ cat new_file.txt
cat: new_file.txt: No such file or directory
~/ShamelessTechnologicalApplicationserver/my_dir$
```

## Task 2: Permissions and Scripting

- Create a new file called "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.**

- Make "my\_script.sh" executable.
- Run "my\_script.sh" and verify that the output matches the expected result.

## Code:

```
touch my_script.sh
nano my_script.sh
```

Save and exit the file in nano. In nano, you can press “Ctrl + o” to save the file, then Enter to confirm, and “Ctrl + x” to exit the editor.

```
#!/bin/bash
echo "Welcome to my script!"
echo "Today's date is $(date)."
```

chmod +x my\_script.sh

# This command gives the file executable permissions.

./my\_script.sh

## Output:

```
>_ Console x Shell x +
~/TidyBelatedHexagon$ touch my_script.sh
~/TidyBelatedHexagon$ nano my_script.sh
nano: command not installed, but was located via Nix.
Would you like to run nano from Nix and add it to your replit.nix file? [Yn]: Y
Adding nano to replit.nix
success
/nix/store/5n5pjgv0pjdxfkbaqi3nl6wp55zlzcxy-nano-7.0
Detected change in environment, reloading shell...
~/TidyBelatedHexagon$ chmod +x my_script.sh
~/TidyBelatedHexagon$ ./my_script.sh
Welcome to my script!
Today's date is Sun 28 May 2023 12:20:56 PM UTC.
~/TidyBelatedHexagon$
```

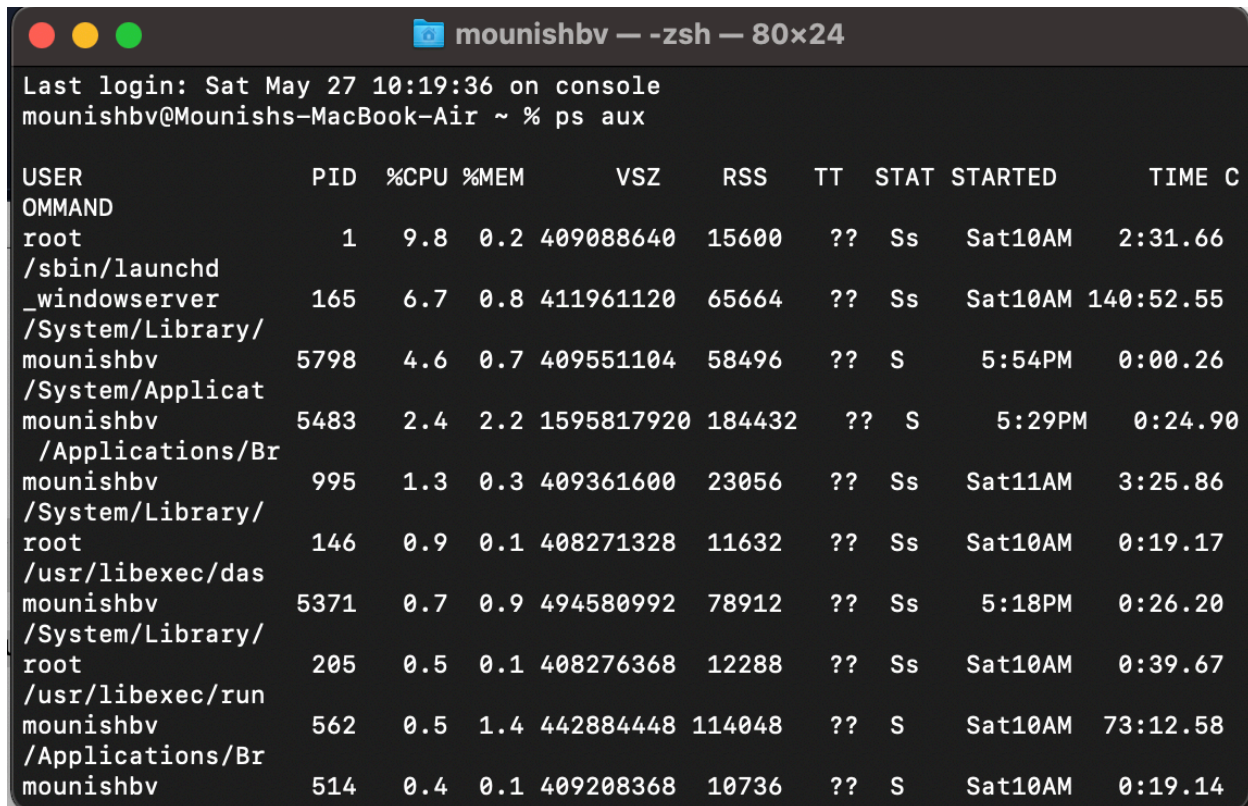
```
>_ Console x Shell x +
GNU nano 7.0 my_script.sh Modif Q
#!/bin/bash
echo "Welcome to my script!"
echo "Today's date is $(date)."
```

^G Help    ^O Write Out    ^W Where Is    ^K Cut    ^T Execute    ^C Location  
^X Exit    ^R Read File    ^\_ Replace    ^U Paste    ^J Justify    ^\_ Go To Line

### Task 3: Command Execution and Pipelines

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

#### 1. List all processes using the ps command:



```
Last login: Sat May 27 10:19:36 on console
mounishbv@Mounishs-MacBook-Air ~ % ps aux
```

USER	PID	%CPU	%MEM	VSZ	RSS	TT	STAT	STARTED	TIME	C
OMMAND										
root	1	9.8	0.2	409088640	15600	??	Ss	Sat10AM	2:31.66	
/sbin/launchd										
_windowserver	165	6.7	0.8	411961120	65664	??	Ss	Sat10AM	140:52.55	
/System/Library/										
mounishbv	5798	4.6	0.7	409551104	58496	??	S	5:54PM	0:00.26	
/System/Applicat										
mounishbv	5483	2.4	2.2	1595817920	184432	??	S	5:29PM	0:24.90	
/Applications/Br										
mounishbv	995	1.3	0.3	409361600	23056	??	Ss	Sat11AM	3:25.86	
/System/Library/										
root	146	0.9	0.1	408271328	11632	??	Ss	Sat10AM	0:19.17	
/usr/libexec/das										
mounishbv	5371	0.7	0.9	494580992	78912	??	Ss	5:18PM	0:26.20	
/System/Library/										
root	205	0.5	0.1	408276368	12288	??	Ss	Sat10AM	0:39.67	
/usr/libexec/run										
mounishbv	562	0.5	1.4	442884448	114048	??	S	Sat10AM	73:12.58	
/Applications/Br										
mounishbv	514	0.4	0.1	409208368	10736	??	S	Sat10AM	0:19.14	

2. Filter the processes using `grep` to display only processes with "bash" in their name:

```
mounishbv — -zsh — 80x10
/Applications/Br
mounishbv      5361    0.0   1.1 1593751696   92528   ??   S       5:17PM   0:17.88
/Applications/Br
_fpsd          5227    0.0   0.0 408170368     896   ??   S       4:55PM   0:00.04
/usr/sbin/distno
mounishbv@mounishs-MacBook-Air ~ % ps aux | grep bash

mounishbv      5841    0.0   0.0 407963440     464 s000  R+      5:56PM   0:00.00
grep bash
mounishbv@mounishs-MacBook-Air ~ %
```

3. Count the number of lines in the filtered output using `wc`:

```
mounishbv — -zsh — 80x10
_fpsd          5227    0.0   0.0 408170368     896   ??   S       4:55PM   0:00.04
/usr/sbin/distno
mounishbv@mounishs-MacBook-Air ~ % ps aux | grep bash

mounishbv      5841    0.0   0.0 407963440     464 s000  R+      5:56PM   0:00.00
grep bash
mounishbv@mounishs-MacBook-Air ~ % ps aux | grep bash | wc -l

1
mounishbv@mounishs-MacBook-Air ~ %
```