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Assignment: Bash Shell Basics

Task 1: File and Directory Manipulation

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

Solution:

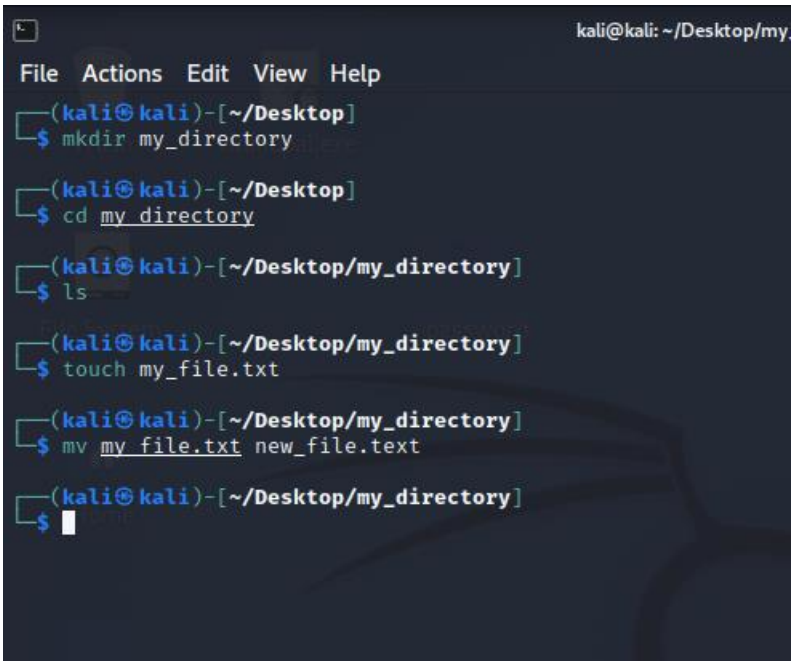
1. Create a directory called "my_directory":
Command: mkdir my_directory

2. Navigate into the "my_directory":
Command: cd my_directory

3. Create an empty file called "my_file.txt":
Command: touch my_file.txt

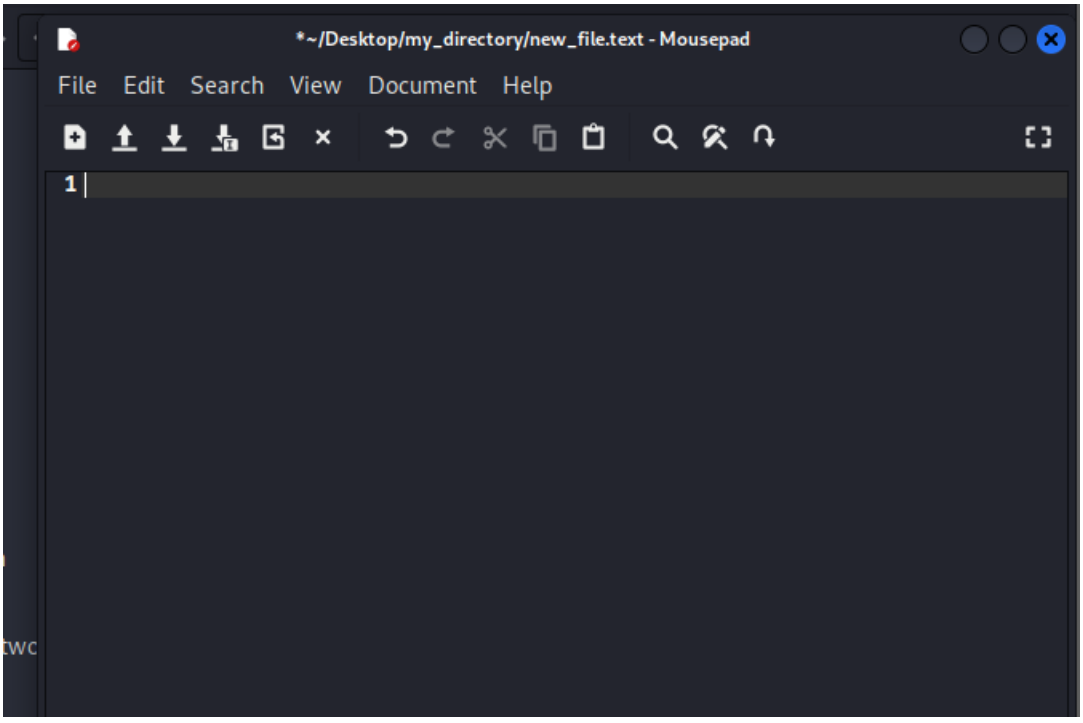
4. List all the files and directories in the current directory:
Command: ls

5. Rename "my_file.txt" to "new_file.txt":
Command: mv my_file.txt new_file.txt



6. Display the content of "new_file.txt" using a pager tool of your choice:

Command: less new_file.txt



7. Append the text "Hello, World!" to "new_file.txt":

Command: echo "Hello, World!" >> new_file.txt

8. Create a new directory called "backup" within "my_directory":

Command: mkdir backup

9. Move "new_file.txt" to the "backup" directory:

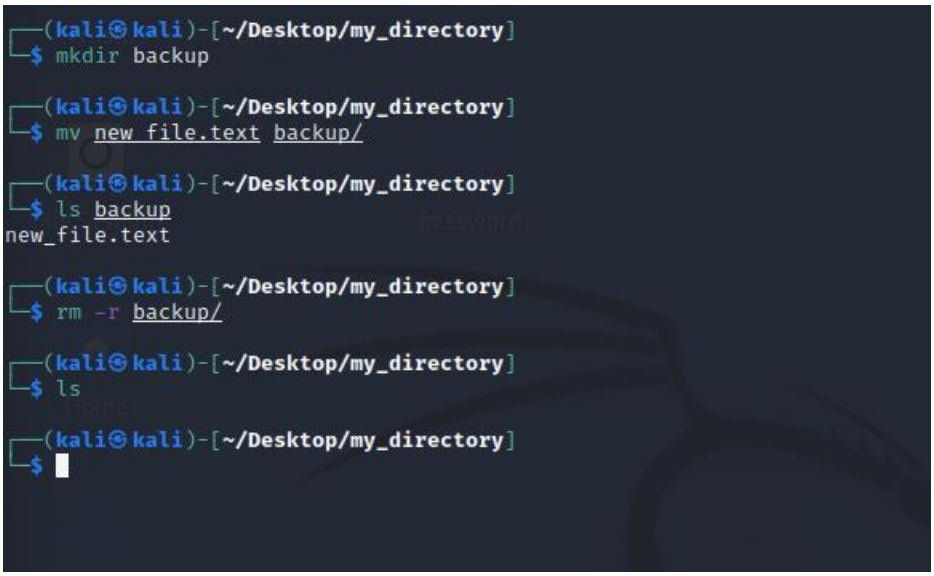
Command: mv new_file.txt backup/

10. Verify that "new_file.txt" is now located in the "backup" directory:

Command: ls backup/

11. Delete the "backup" directory and all its contents:

Command: rm -r backup/



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.

Solution:

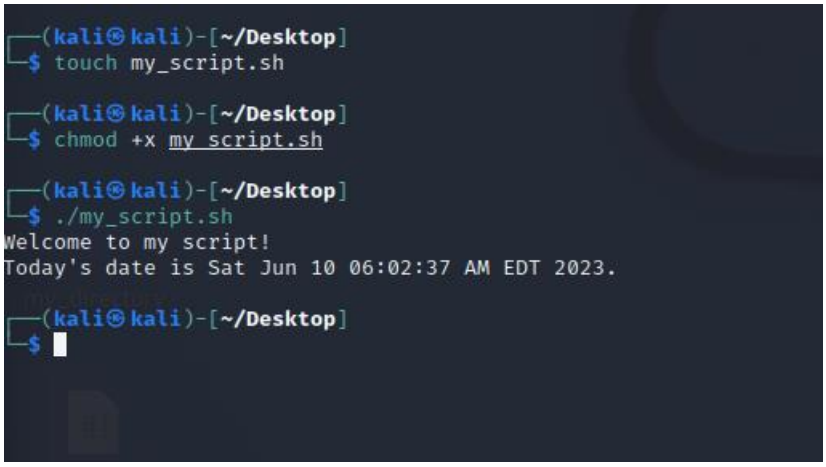
1. Create a new file called "my_script.sh":
Command: touch my_script.sh

2. Open "my_script.sh" using a text editor of your choice and add the following lines:

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

3. Make "my_script.sh" executable:
Command: chmod +x my_script.sh

4. Run "my_script.sh" and verify the output matches the expected result:
Command: ./my_script.sh



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.

Solution:

1. List all the processes running on your system using the "ps" command:
Command: ps

2. Use the "grep" command to filter the processes list and display only the processes with "bash" in their name:
Command: ps | grep bash

3. Use the "wc" command to count the number of lines in the filtered output:
Command: ps | grep bash | wc -l