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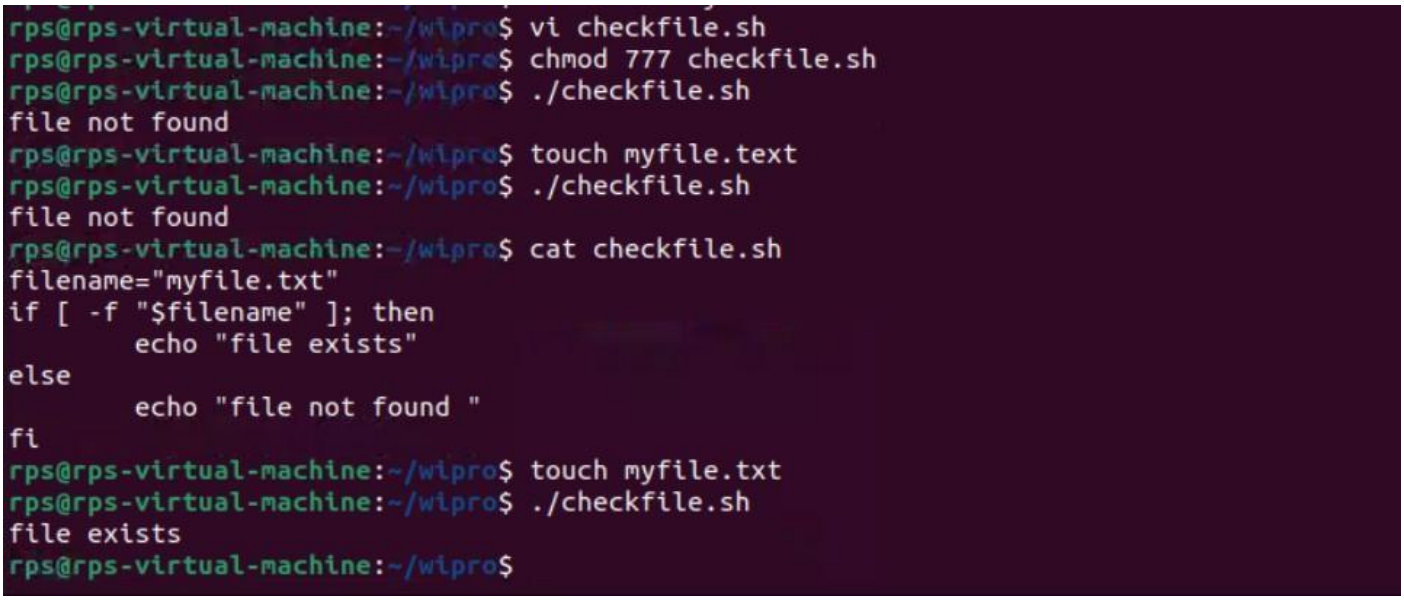
Assignment 1: Ensure the script checks if a specific file (e.g., myfile.txt) exists in the current directory. If it exists, print "File exists", otherwise print "File not found".

```
#!/bin/bash

filename="myfile.txt"  if

[ -f "$filename" ]; then

echo "File exists" else

echo "File not found" fi
```

output is :



Assignment 2: Write a script that reads numbers from the user until they enter '0'. The script should also print whether each number is odd or even.

```
#!/bin/bash

read -p "Enter a number 0 to quit: " number while

[[  $number -ne 0 ]]; do

  # Check if the number is even using modulo operator (%)

If  (( number % 2 == 0 ));  then     echo "$number is even"
```

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else
echo "$number is odd"

fi

read -p "Enter a number (0 to quit): " number done

echo "Exiting..." output

is :

```
rps@rps-virtual-machine:~/wipro$ vi evenodd.sh
rps@rps-virtual-machine:~/wipro$ chmod 777 evenodd.sh
rps@rps-virtual-machine:~/wipro$ ./evenodd.sh
enter a number 0 to quit:^[[F9
./evenodd.sh: line 3: $'[[\E[F9': command not found
Exiting....
rps@rps-virtual-machine:~/wipro$ ./evenodd.sh
enter a number 0 to quit:6
./evenodd.sh: line 3: [[6: command not found
Exiting....
rps@rps-virtual-machine:~/wipro$ vi evenodd.sh
rps@rps-virtual-machine:~/wipro$ ./evenodd.sh
enter a number 0 to quit:6
6 is even
entera number 0 to quit :7
7 is odd
entera number 0 to quit :0
Exiting....
rps@rps-virtual-machine:~/wipro$ cat evenodd.sh
#!/usr/bin/bash
read -p "enter a number 0 to quit:" number
while [[ $number -ne 0 ]]; do
        if (( number % 2 ==0 )); then
                echo "$number is even"
        else
                echo "$number is odd"
        fi
        read -p "entera number 0 to quit :" number
done
echo "Exiting...."
rps@rps-virtual-machine:~/wipro$
```

Assignment 3: Create a function that takes a filename as an argument and prints the number of lines in the file. Call this function from your script with different filenames.

#!/bin/bash function count_lines {

filename="$1" if [-f "$filename"]; then

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line_count=$(wc -l < "$filename") echo

"$filename has $line_count lines." else

  echo "File '$filename' not found."

 fi

}

count_lines "myfile.txt" count_lines

"change_file.txt"

Assignment 4: Write a script that creates a directory named TestDir and inside it, creates ten files named File1.txt, File2.txt, ... File10.txt. Each file should contain its filename as its content (e.g., File1.txt contains "File1.txt"). #!/bin/bash dir_name="TestDir" num_files=10 if [! -d "$dir_name"]; then mkdir -p "$dir_name" || { echo "Error creating directory '$dir_name'"; exit 1; } fi

for i in $(seq 1 $num_files); do

filename="File$i.txt"

filepath="$dir_name/$filename"

 # Create the file and write content (redirect to avoid overwriting) echo "$filename" > "$filepath" || { echo "Error creating file '$filepath'"; exit 1; } done

echo "Created directory '$dir_name' with $num_files files."

Assignment 5: Modify the script to handle errors, such as the directory already existing or lacking permissions to create files.Add a debugging mode that prints additional information when enabled.

#!/bin/bash #

Directory name

dir_name="TestDir"

Number of files

num_files=10

Enable debugging mode (set to true for additional info) debug_mode=false

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```
# Function to print debug message function
debug_print {
  if [[ "$debug_mode" == true ]]; then
echo "[DEBUG] $1"
  fi
}
# Check if directory already exists (informative message) if [ -d
"$dir_name" ]; then   echo "Directory '$dir_name' already exists.
Skipping creation."   exit 0 fi
# Create the directory (handle errors) debug_print "Creating directory:
$dir_name" if ! mkdir -p "$dir_name"; then   echo "Error: Insufficient
permissions to create directory '$dir_name'."   exit 1 fi
# Loop to create files with unique content for
i in $(seq 1 $num_files); do
filename="File$i.txt"
filepath="$dir_name/$filename"
  # Create the file and write content (redirect to avoid overwriting)
debug_print "Creating file: $filepath"   if ! echo "$filename" >
"$filepath"; then     echo "Error creating file '$filepath'."     exit 1
fi
done echo "Created directory '$dir_name' with $num_files
files.
```

Assignment 6: Given a sample log file, write a script using grep to extract all lines containing "ERROR". Use awk to print the date, time, and error message of each extracted line.Data Processing with sed

```
#!/bin/bash
# Define the log file path log_file="sample.log"
```

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Use grep to extract lines containing "ERROR" and then use awk to print date, time, and error message grep

"ERROR" "$log_file" | awk '{print $1, $2, substr($0, index($0,$4))}' Explanation:

- grep "ERROR" "$log_file": This command searches for lines containing "ERROR" in the specified log file.
- awk '{print $1, $2, substr($0, index($0,$4))}': This awk command is used to extract the date, time, and error message from each line containing "ERROR".
- $1 and $2 represent the first and second fields, which are the date and time.
- substr($0, index($0,$4)) extracts the error message starting from the fourth field (which is the timestamp). This ensures that even if the error message contains spaces, it is printed entirely.

Assignment 7: Create a script that takes a text file and replaces all occurrences of "old_text" with "new_text". Use sed to perform this operation and output the result to a new file.

#!/bin/bash

Get the old and new text from the user.

echo "Enter the old text to be replaced:"

read old_text echo "Enter the new text:"

read new_text

Get the input and output file names from the user.

echo "Enter the input file name:" read

input_file

echo "Enter the output file name:" read

output_file

Replace all occurrences of "old_text" with "new_text" in the input file and output the result to the output file.

sed "s/$old_text/$new_text/g" $input_file > $output_file

Print a message to the user.

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```
echo "The replacement is complete. The output file is $output_file."
```