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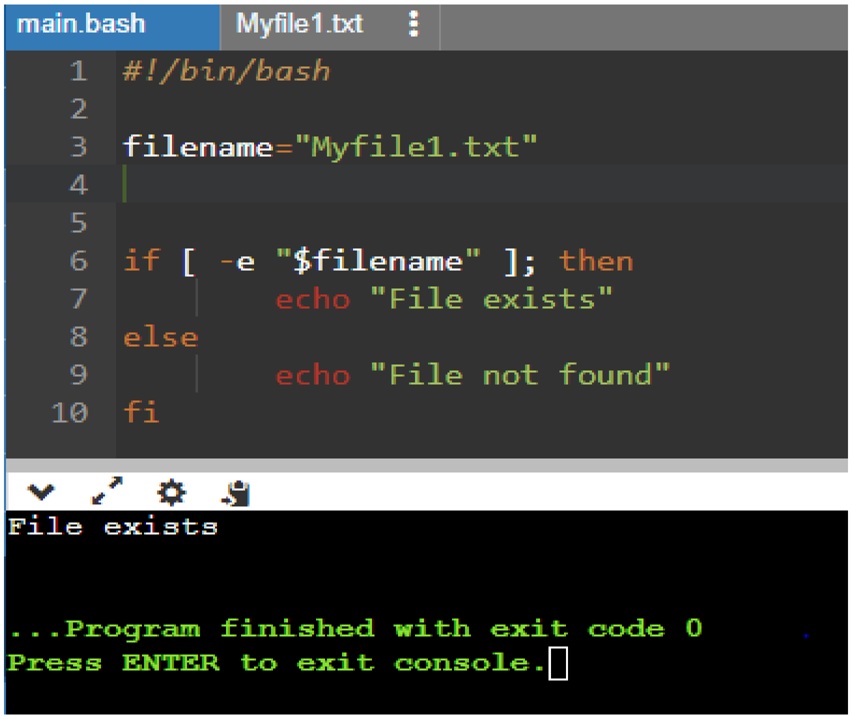
Assignment 1

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".

Ans : code

```
filename="Myfile1.txt"
if [ -e "$filename" ]; then
        echo "File exists"
else
        echo "File not found"
fi
```

Output :



```
#!/bin/bash

filename="Myfile1.txt"


if [ -e "$filename" ]; then
        echo "File exists"
else
        echo "File not found"
fi
```

```
File exists


...Program finished with exit code 0
Press ENTER to exit console.
```

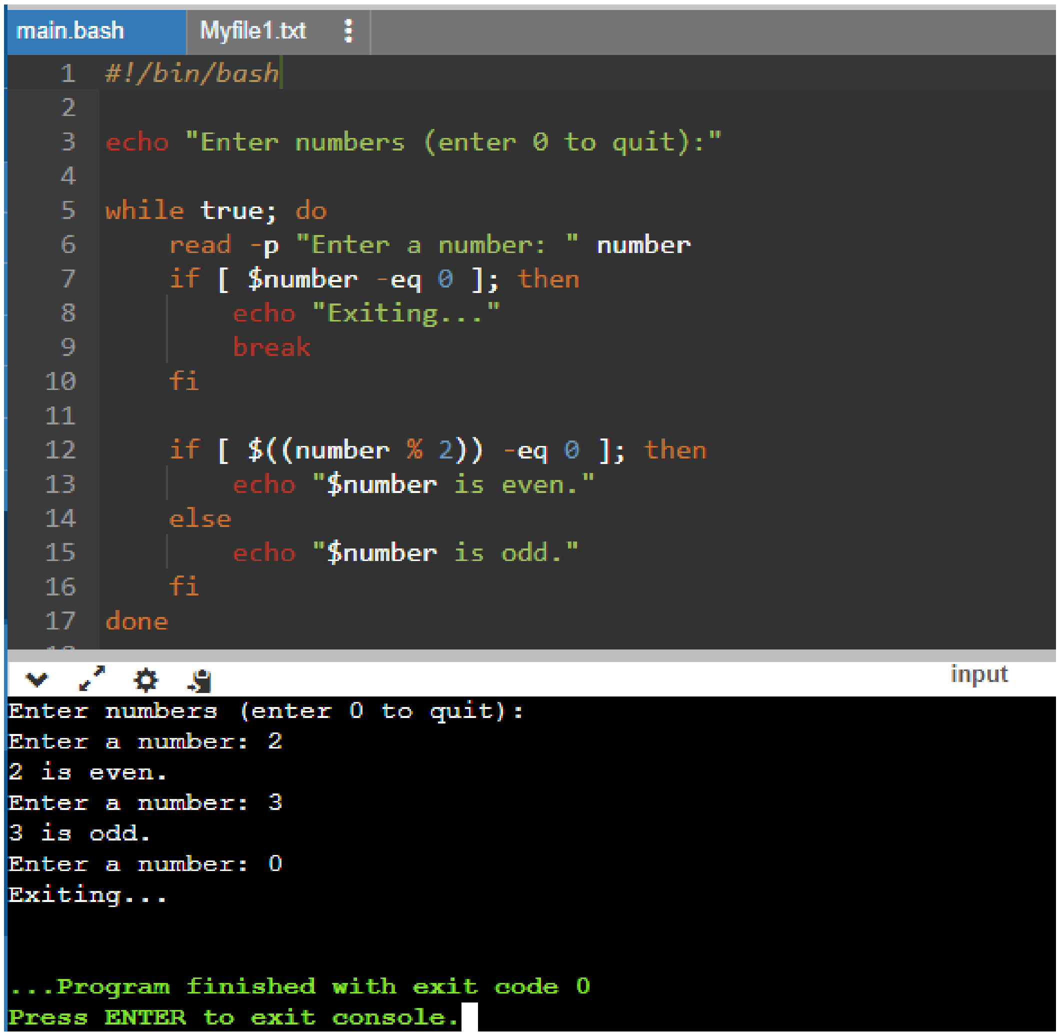
Assignment 2

Q. 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.

Ans: Code

```
#!/bin/bash

echo "Enter numbers (enter 0 to quit):"

while true; do
    read -p "Enter a number: " number
    if [ $number -eq 0 ]; then
        echo "Exiting..."
        break
    fi
    if [ $((number % 2)) -eq 0 ]; then
        echo "$number is even."
    else
        echo "$number is odd."
    fi
done
```

Output:



```
#!/bin/bash

echo "Enter numbers (enter 0 to quit):"

while true; do
    read -p "Enter a number: " number
    if [ $number -eq 0 ]; then
        echo "Exiting..."
        break
    fi

    if [ $((number % 2)) -eq 0 ]; then
        echo "$number is even."
    else
        echo "$number is odd."
    fi
done
```

```
Enter numbers (enter 0 to quit):
Enter a number: 2
2 is even.
Enter a number: 3
3 is odd.
Enter a number: 0
Exiting...


...Program finished with exit code 0
Press ENTER to exit console.
```

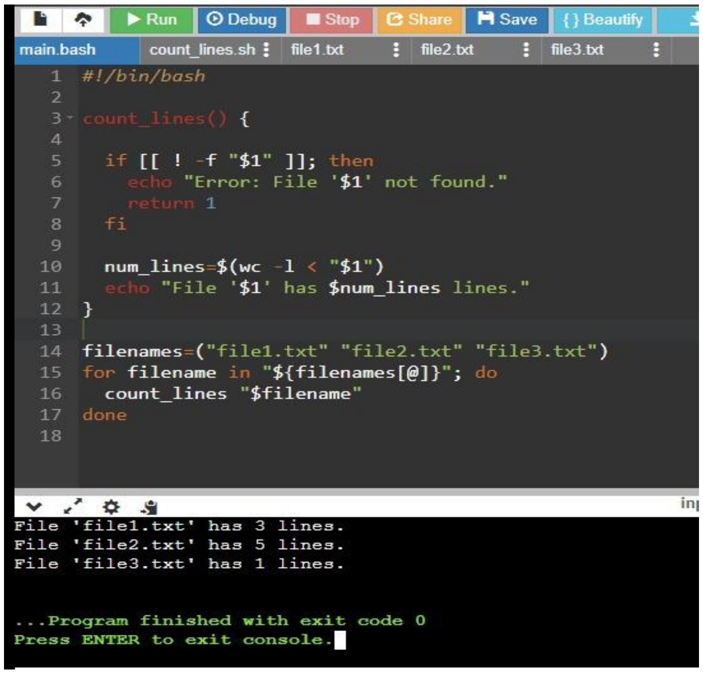
Assignment 3

Q. 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.

Ans: code

```
#!/bin/bassh

file1.txt

file2.txt

count lines() {

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

fi

echo "Error: File '$1' not found."

return 1

file3.bd

}

num_lines=$(wc-1 < "$1")

echo "File '$1' has $num_lines lines."


filenames=("file1.txt" "file2.txt" "file3.txt")

for filename in "${filenames[@]}"; do

count_lines "$filename

done
```

Output:



```
#!/bin/bash

count_lines() {

  if [[ ! -f "$1" ]]; then
    echo "Error: File '$1' not found."
    return 1
  fi

  num_lines=$(wc -l < "$1")
  echo "File '$1' has $num_lines lines."
}

filenames=("file1.txt" "file2.txt" "file3.txt")
for filename in "${filenames[@]}"; do
  count_lines "$filename"
done
```

```
File 'file1.txt' has 3 lines.
File 'file2.txt' has 5 lines.
File 'file3.txt' has 1 lines.


...Program finished with exit code 0
Press ENTER to exit console.
```

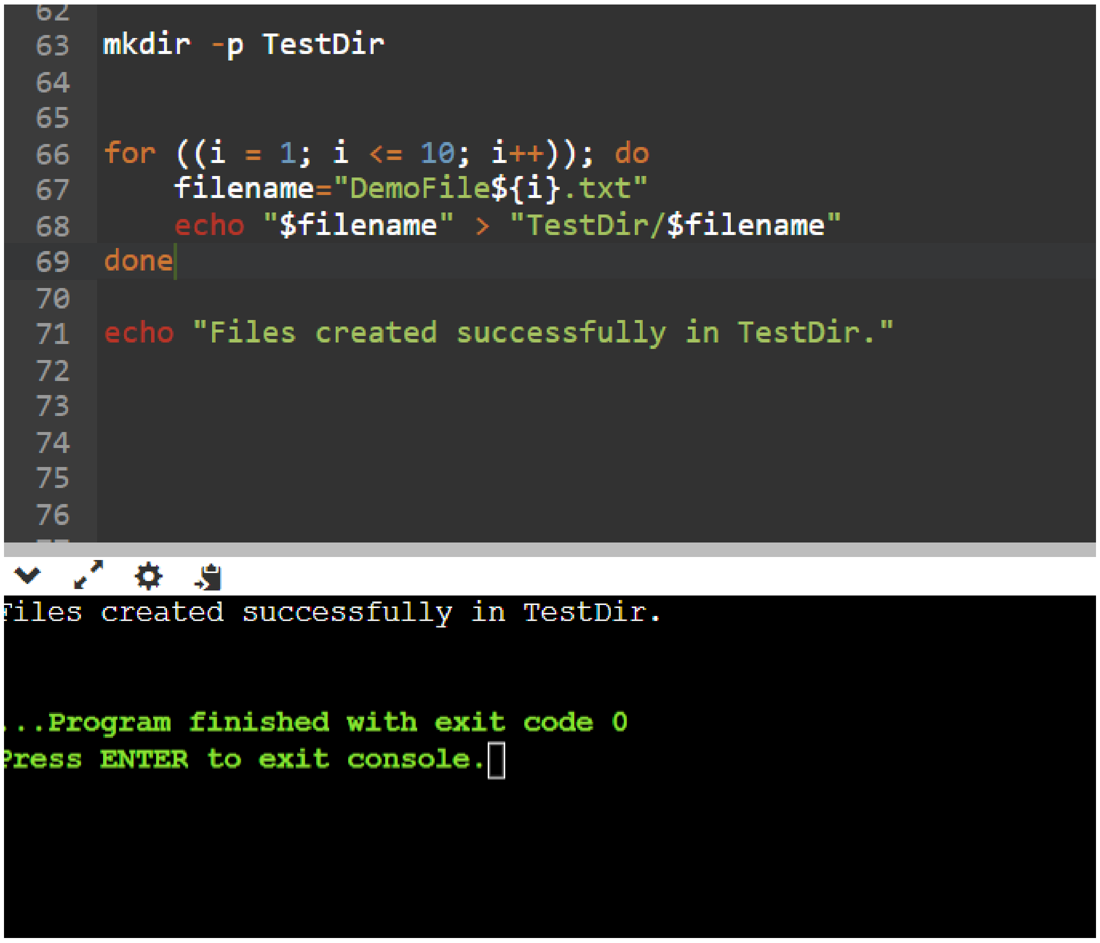
Assignment 4

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").

Ans : Code

```
mkdir -p TestDir

for ((i = 1; i <= 10; i++)); do

  filename="DemoFile${i}.txt"

    echo "$filename" > "TestDir/$filename"

done


echo "Files created successfully in TestDir."
```

Output:



```
mkdir -p TestDir


for ((i = 1; i <= 10; i++)); do
    filename="DemoFile${i}.txt"
    echo "$filename" > "TestDir/$filename"
done

echo "Files created successfully in TestDir."
```

```
Files created successfully in TestDir.


...Program finished with exit code 0
Press ENTER to exit console.
```

Assignment 5

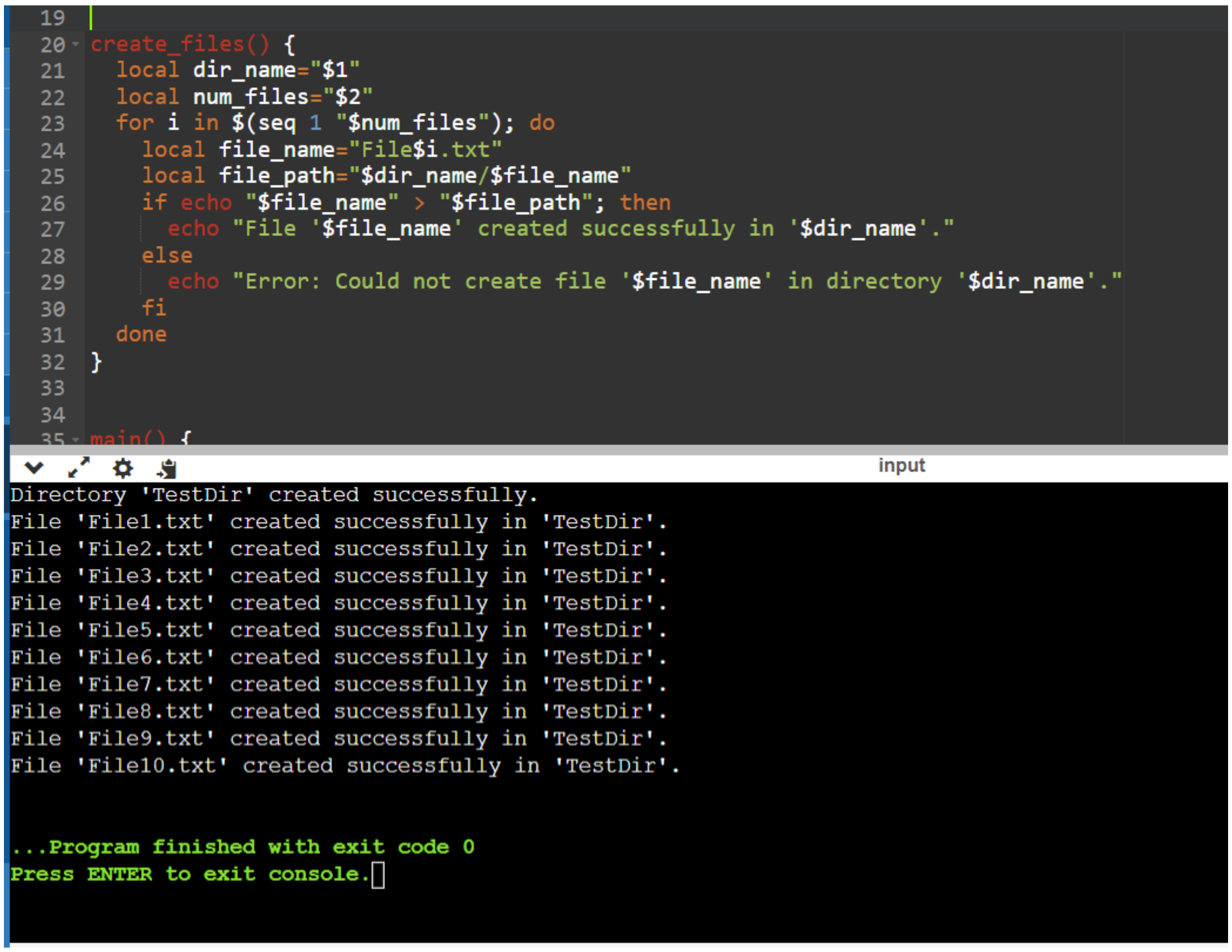
Q. Modify the script to handle errors, such as the directory already existing or lacking permissions to create files.

Ans : Code

```
create_directory() {
  local dir_name="$1"
  if mkdir "$dir_name" 2>/dev/null; then
    echo "Directory '$dir_name' created successfully."
  else
```

```
    if [ -d "$dir_name" ]; then
      echo "Directory '$dir_name' already exists."
    else
      echo "Error: Could not create directory '$dir_name'."
    fi
  fi
}
create_files() {
  local dir_name="$1"
  local num_files="$2"
  for i in $(seq 1 "$num_files"); do
    local file_name="File$i.txt"
    local file_path="$dir_name/$file_name"
    if echo "$file_name" > "$file_path"; then
      echo "File '$file_name' created successfully in '$dir_name'."
    else
      echo "Error: Could not create file '$file_name' in directory
'$dir_name'."
    fi
  done
}
main() {
  local dir_name="TestDir"
  local num_files=10

  create_directory "$dir_name"
  create_files "$dir_name" "$num_files"
}main
```

Output:



```

create_files() {
  local dir_name="$1"
  local num_files="$2"
  for i in $(seq 1 "$num_files"); do
    local file_name="File$i.txt"
    local file_path="$dir_name/$file_name"
    if echo "$file_name" > "$file_path"; then
      echo "File '$file_name' created successfully in '$dir_name'."
    else
      echo "Error: Could not create file '$file_name' in directory '$dir_name'."
    fi
  done
}


main() {
```

```
Directory 'TestDir' created successfully.
File 'File1.txt' created successfully in 'TestDir'.
File 'File2.txt' created successfully in 'TestDir'.
File 'File3.txt' created successfully in 'TestDir'.
File 'File4.txt' created successfully in 'TestDir'.
File 'File5.txt' created successfully in 'TestDir'.
File 'File6.txt' created successfully in 'TestDir'.
File 'File7.txt' created successfully in 'TestDir'.
File 'File8.txt' created successfully in 'TestDir'.
File 'File9.txt' created successfully in 'TestDir'.
File 'File10.txt' created successfully in 'TestDir'.


...Program finished with exit code 0
Press ENTER to exit console.
```

Assignment 6

Q.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.

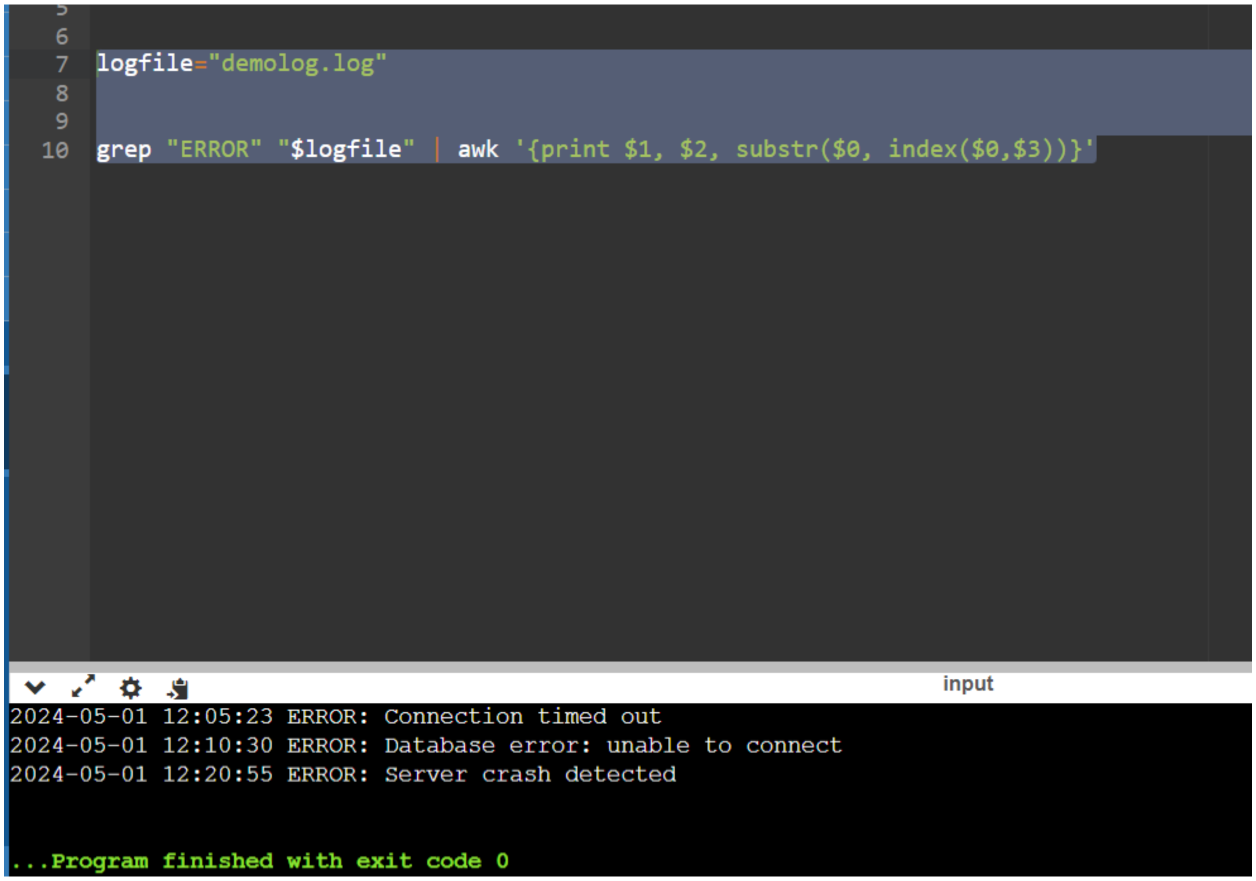
Data Processing with sed

Ans : Code

logfile="demolog.log"

grep "ERROR" "$logfile" | awk '{print $1, $2, substr($0, index($0,$3))}'

Output:



```
logfile="demolog.log"


grep "ERROR" "$logfile" | awk '{print $1, $2, substr($0, index($0,$3))}'
```

```
2024-05-01 12:05:23 ERROR: Connection timed out
2024-05-01 12:10:30 ERROR: Database error: unable to connect
2024-05-01 12:20:55 ERROR: Server crash detected


...Program finished with exit code 0
```

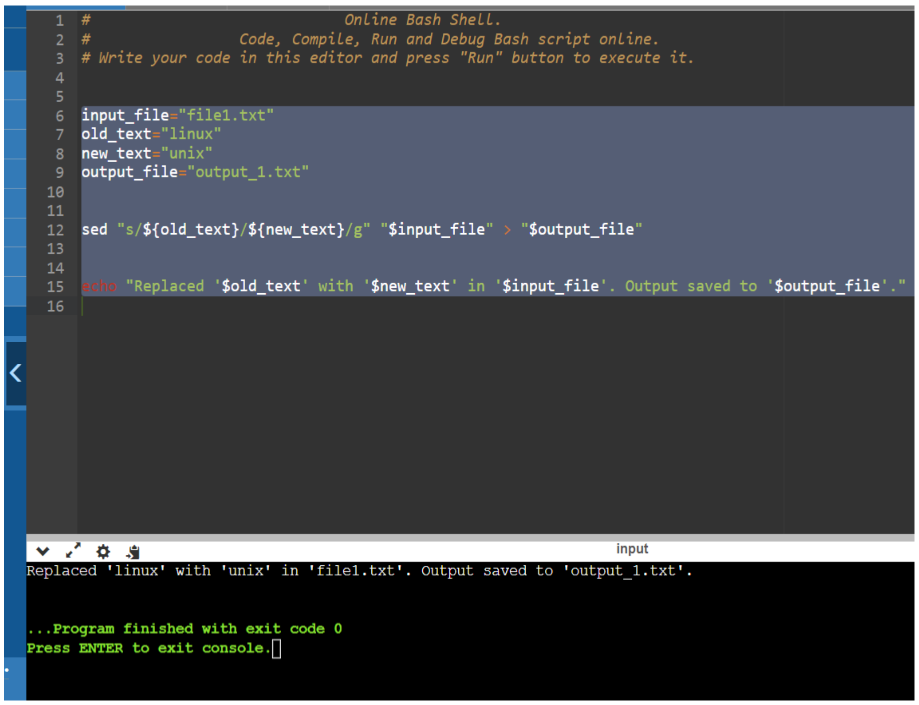
Assignment 7

Q. 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.

Ans : Code

```
input_file="file1.txt"

old_text="linux"

new_text="unix"

output_file="output_1.txt"

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

echo "Replaced '$old_text' with '$new_text' in '$input_file'. Output saved to '$output_file'."
```

Output :



```
#                              Online Bash Shell.
#                  Code, Compile, Run and Debug Bash script online.
# Write your code in this editor and press "Run" button to execute it.


input_file="file1.txt"
old_text="linux"
new_text="unix"
output_file="output_1.txt"


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


echo "Replaced '$old_text' with '$new_text' in '$input_file'. Output saved to '$output_file'."

```

```
Replaced 'linux' with 'unix' in 'file1.txt'. Output saved to 'output_1.txt'.


...Program finished with exit code 0
Press ENTER to exit console.
```