**ASSIGNMENT – SHELL SCRIPTING**

- **Harshinie M**

**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".**

```
file="file1.txt"
if [ -f "$file" ]
then
  echo "File exists"
else
  echo "File not found"
fi
```

**output:**

```
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$ sh assign1.sh
File exists
```

**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.**

```
while true
do
    echo "enter the number"
    read num
    if [ $num -eq 0 ];
    then
        echo "exiting program"
    elif [ $((num % 2)) -eq 0 ];
    then
        echo "$num is even"
    else
        echo "$num is odd"
    fi
done
```

**output:**

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$ sh assign2.sh
enter the number
7
7 is odd
enter the number
8
8 is even
enter the number
0
exiting program

**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.**

```
count_lines() {
  wc -l $1
}

count_lines file1.txt
count_lines file2.txt
```

**output:**

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$ sh assign3.sh
3 file1.txt
2 file2.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"").**

```
mkdir TestDir
for i in {1..10}
do
    echo "File$i.txt" > TestDir/File$i.txt
```

```
done
```

**output:**

```
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$ sh assign4.sh

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$ ls TestDir
File1.txt  File2.txt  File4.txt  File6.txt  File8.txt
File10.txt  File3.txt  File5.txt  File7.txt  File9.txt

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$ cd TestDir

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$ cat File1.txt
File1.txt
```

**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.**

```
DEBUG=true
if [ -d TestDir ]; then echo "Directory exists"; exit 1; fi
mkdir TestDir
[ "$DEBUG" = true ] && echo "Directory created"
```

**Output:**

```
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$ sh assign5.sh
Directory exists
```

**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.**

grep "ERROR" app.log | awk '{print $1, $2, $4, $5, $6}'

**output:**

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$ sh assign6.sh
2025-12-15 10:30:45 Database connection failed
2025-12-15 10:35:20 File not found

**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**.

sed 's/harshinie/harshi/g' input.txt > output.txt

**output:**

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$ sh assign7.sh
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$ cat output.txt
hello harshi
what harshi
where are you harshi
good job harshi