

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.

Sol:

```
#!/bin/bash

# Set debugging mode (0 for off, 1 for on)

DEBUG=1

# Function to print debug messages

debug() {

    if [ $DEBUG -eq 1 ]; then

        echo "DEBUG: $1"

    fi

}

# Function to handle errors

handle_error() {

    echo "Error: $1"

    exit 1

}

# Create a directory named TestDirNew

if [ -d "TestDirNew" ]; then

    handle_error "Directory 'TestDirNew' already exists."

elif ! mkdir TestDirNew 2>/dev/null; then

    handle_error "Unable to create directory 'TestDirNew'. Check permissions."

else

    debug "Directory 'TestDirNew' created."

fi

# Change to the TestDirNew directory

if ! cd TestDirNew; then

    handle_error "Unable to change to directory 'TestDirNew'. Check permissions."
```

```

else
    debug "Changed to directory 'TestDirNew'."
fi

# Loop to create 10 files
for i in {1..10}; do
    filename="File$i.txt"
    if echo "$filename" > "$filename" 2>/dev/null; then
        debug "File '$filename' created with content '$filename'."
    else
        handle_error "Unable to create file '$filename'. Check permissions."
    fi
done

echo "Files created successfully in TestDirNew."

```

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Explanation:

Debugging Mode:

- The script starts by setting a debugging mode with a variable `DEBUG` set to either 0 (off) or 1 (on). When debugging is on (1), debug messages are printed to provide additional information during script execution.

Debug Function:

- The `debug` function prints debug messages if debugging mode is enabled.

Error Handling Function:

- The `handle_error` function prints an error message passed as an argument and exits the script with an exit status of 1.

Creating Directory:

- The script checks if a directory named "TestDirNew" already exists. If it does, it triggers an error through the `handle_error` function.
- If the directory does not exist, it attempts to create it using `mkdir`. If it fails to create the directory (likely due to permission issues), it triggers an error.

Changing Directory:

- If the directory creation is successful, it changes the current working directory to "TestDirNew". If it fails (e.g., due to permission issues), it triggers an error.

Creating Files:

- It then enters a loop to create ten files within the "TestDirNew" directory. Each file is named "File1.txt" through "File10.txt".
- For each iteration, it attempts to create a file with the respective filename. If successful, it prints a debug message. If it fails (e.g., due to permission issues), it triggers an error.

Script Completion:

- After creating all ten files successfully, it prints a success message indicating that the files were created in the "TestDirNew" directory.