Name: Toni Tannous

Link to my GitHub repository:

https://github.com/Tannous987/git-assignment.git

Visualization of each task

1. Version Control Initialization and Repository Setup

```
toni@toni-ubuntu:~/Desktop$ git clone https://github.com/Tannous987/robotics-assignment-2.git
Cloning into 'robotics-assignment-2'...
warning: You appear to have cloned an empty repository.
toni@toni-ubuntu:~/Desktop$ cd robotics-assignment-2/
toni@toni-ubuntu:~/Desktop/robotics-assignment-2$ git checkout -b master
Switched to a new branch 'master'
```

2. Advanced Directory and File Management

```
toni@toni-ubuntu:~/Desktop/robotics-assignment-2$ mkdir -p workspace/{docs,logs,data,scripts}
toni@toni-ubuntu:~/Desktop/robotics-assignment-2$ tree workspace
workspace
├── data
├── docs
├── logs
└── scripts

4 directories, 0 files
toni@toni-ubuntu:~/Desktop/robotics-assignment-2$ cd workspace
toni@toni-ubuntu:~/Desktop/robotics-assignment-2/workspace$ touch docs/README.md logs/system.log data/input.csv scripts/setup.sh
toni@toni-ubuntu:~/Desktop/robotics-assignment-2/workspace$ cd..
cd..: command not found
toni@toni-ubuntu:~/Desktop/robotics-assignment-2/workspace$ cd ..
toni@toni-ubuntu:~/Desktop/robotics-assignment-2$ tree workspace
workspace
├── data
│   └── input.csv
├── docs
│   └── README.md
├── logs
│   └── system.log
└── scripts
    └── setup.sh

4 directories, 4 files
toni@toni-ubuntu:~/Desktop/robotics-assignment-2$ git add .
toni@toni-ubuntu:~/Desktop/robotics-assignment-2$ git status
On branch master

No commits yet

Changes to be committed:
  (use "git rm --cached <file>..." to unstage)
        new file:   workspace/data/input.csv
        new file:   workspace/docs/README.md
        new file:   workspace/logs/system.log
        new file:   workspace/scripts/setup.sh
toni@toni-ubuntu:~/Desktop/robotics-assignment-2$ git commit -m "Create structured directory with initial setup files."
[master (root-commit) 6b28c6c] Create structured directory with initial setup files.
 4 files changed, 0 insertions(+), 0 deletions(-)
 create mode 100644 workspace/data/input.csv
 create mode 100644 workspace/docs/README.md
 create mode 100644 workspace/logs/system.log
 create mode 100644 workspace/scripts/setup.sh
```

3. File Creation and Manipulation

1. Use touch to create several files of your choice within docs and fill them up with some content using nano.

```
toni@toni-ubuntu:~/Desktop/robotics-assignment-2$ cd workspace/docs/
toni@toni-ubuntu:~/Desktop/robotics-assignment-2/workspace/docs$ touch file1.txt file2.txt file3.txt
toni@toni-ubuntu:~/Desktop/robotics-assignment-2/workspace/docs$ ls
file1.txt  file2.txt  file3.txt  README.md
toni@toni-ubuntu:~/Desktop/robotics-assignment-2/workspace/docs$ nano file1.txt
toni@toni-ubuntu:~/Desktop/robotics-assignment-2/workspace/docs$ cat file1.txt
Hello world from file 1.
toni@toni-ubuntu:~/Desktop/robotics-assignment-2/workspace/docs$ nano file2.txt
toni@toni-ubuntu:~/Desktop/robotics-assignment-2/workspace/docs$ cat file2.txt
Hello world from file 2.
toni@toni-ubuntu:~/Desktop/robotics-assignment-2/workspace/docs$ nano file3.txt
toni@toni-ubuntu:~/Desktop/robotics-assignment-2/workspace/docs$ cat file3.txt
Hello world from file 3.
toni@toni-ubuntu:~/Desktop/robotics-assignment-2/workspace/docs$ git commit -m "Create several files with some content within docs."
[master 586df0b] Create several files with some content within docs.
 3 files changed, 3 insertions(+)
 create mode 100644 workspace/docs/file1.txt
 create mode 100644 workspace/docs/file2.txt
 create mode 100644 workspace/docs/file3.txt
```

2. Utilize echo to add introductory content to a file called welcome.txt.

```
toni@toni-ubuntu:~/Desktop/robotics-assignment-2/workspace/docs$ echo "Welcome to the robotics-assignment-2!" > welcome.txt
toni@toni-ubuntu:~/Desktop/robotics-assignment-2/workspace/docs$ ls
file1.txt  file2.txt  file3.txt  README.md  welcome.txt
toni@toni-ubuntu:~/Desktop/robotics-assignment-2/workspace/docs$ cat welcome.txt
Welcome to the robotics-assignment-2!
toni@toni-ubuntu:~/Desktop/robotics-assignment-2/workspace/docs$ git add welcome.txt
toni@toni-ubuntu:~/Desktop/robotics-assignment-2/workspace/docs$ git commit -m "Create welcome.txt file with introductory content."
[master b1a9cc9] Create welcome.txt file with introductory content.
 1 file changed, 1 insertion(+)
 create mode 100644 workspace/docs/welcome.txt
```

3. Merge multiple text files into one using cat and redirect the output to summary.txt.

```
toni@toni-ubuntu:~/Desktop/robotics-assignment-2/workspace/docs$ nano file1.txt
toni@toni-ubuntu:~/Desktop/robotics-assignment-2/workspace/docs$ cat file1.txt
1-Hello world from file 1.
2
3
4
5
6
7
8
9
toni@toni-ubuntu:~/Desktop/robotics-assignment-2/workspace/docs$ cat file1.txt file2.txt file3.txt > summary.txt
toni@toni-ubuntu:~/Desktop/robotics-assignment-2/workspace/docs$ ls
file1.txt  file2.txt  file3.txt  README.md  summary.txt  welcome.txt
toni@toni-ubuntu:~/Desktop/robotics-assignment-2/workspace/docs$ cat summary.txt
1-Hello world from file 1.
2
3
4
5
6
7
8
9
Hello world from file 2.
Hello world from file 3.
toni@toni-ubuntu:~/Desktop/robotics-assignment-2/workspace/docs$ git commit -m  "Add some content to file 1 and merge the content of file 1 2 and 3 into summary using cat."
[master 16aad64] Add some content to file 1 and merge the content of file 1 2 and 3 into summary using cat.
 2 files changed, 20 insertions(+), 1 deletion(-)
 create mode 100644 workspace/docs/summary.txt
```

4. Display the beginning of summary.txt with head and the end with tail.

```
toni@toni-ubuntu:~/Desktop/robotics-assignment-2/workspace/docs$ head summary.txt
1-Hello world from file 1.
2
3
4
5
6
7
8
9
Hello world from file 2.
toni@toni-ubuntu:~/Desktop/robotics-assignment-2/workspace/docs$ tail summary.txt
2
3
4
5
6
7
8
9
Hello world from file 2.
Hello world from file 3.
```

Using head I will see the first 10 lines of summary.txt and using tail I will see the last 10 lines.

5. Use grep to find specific strings in summary.txt and redirect these findings to logs/search_results.txt.

```
toni@toni-ubuntu:~/Desktop/robotics-assignment-2/workspace/logs$ cd ..
toni@toni-ubuntu:~/Desktop/robotics-assignment-2/workspace$ cat docs/summary.txt
1-Hello world from file 1.
2
3
4
5
6
7
8
9
Hello world from file 2.
Hello world from file 3.
toni@toni-ubuntu:~/Desktop/robotics-assignment-2/workspace$ grep "file" docs/summary.txt > logs/search_results.txt
toni@toni-ubuntu:~/Desktop/robotics-assignment-2/workspace$ cd logs
toni@toni-ubuntu:~/Desktop/robotics-assignment-2/workspace/logs$ ls
search_results.txt  system.log
toni@toni-ubuntu:~/Desktop/robotics-assignment-2/workspace/logs$ cat search_results.txt
1-Hello world from file 1.
Hello world from file 2.
Hello world from file 3.
toni@toni-ubuntu:~/Desktop/robotics-assignment-2/workspace/logs$ git add search_results.txt
toni@toni-ubuntu:~/Desktop/robotics-assignment-2/workspace/logs$ git commit -m "Find 'file' string using grep in summary.txt and redirect the output to logs/search_results.txt."
[master e99c091] Find 'file' string using grep in summary.txt and redirect the output to logs/search_results.txt.
 1 file changed, 3 insertions(+)
 create mode 100644 workspace/logs/search_results.txt
```

the grep command will search for a specific string or expression within one file or multiple file and it will output the lines which contain this string or expression using this symbol “>” we can redirect the output to a specific file which will be created. If the file already exists this will overwrite its content. And we can append the output of grep to already existing file by using this symbol “>>” instead the previous one.

6. Move and copy files within the project directories using mv and cp.

```
toni@toni-ubuntu:~/Desktop/robotics-assignment-2/workspace/logs$ cd ..
toni@toni-ubuntu:~/Desktop/robotics-assignment-2/workspace$ mv docs/file1.txt data
toni@toni-ubuntu:~/Desktop/robotics-assignment-2/workspace$ tree

├── data
│   ├── file1.txt
│   └── input.csv
├── docs
│   ├── file2.txt
│   ├── file3.txt
│   ├── README.md
│   ├── summary.txt
│   └── welcome.txt
├── logs
│   ├── search_results.txt
│   └── system.log
└── scripts
    └── setup.sh

4 directories, 10 files
toni@toni-ubuntu:~/Desktop/robotics-assignment-2/workspace$ cp docs/file2.txt logs
toni@toni-ubuntu:~/Desktop/robotics-assignment-2/workspace$ tree

├── data
│   ├── file1.txt
│   └── input.csv
├── docs
│   ├── file2.txt
│   ├── file3.txt
│   ├── README.md
│   ├── summary.txt
│   └── welcome.txt
├── logs
│   ├── file2.txt
│   ├── search_results.txt
│   └── system.log
└── scripts
    └── setup.sh

4 directories, 11 files
toni@toni-ubuntu:~/Desktop/robotics-assignment-2/workspace$ git add .
toni@toni-ubuntu:~/Desktop/robotics-assignment-2/workspace$ git status
On branch master
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
        renamed:    docs/file1.txt -> data/file1.txt
        new file:   logs/file2.txt

toni@toni-ubuntu:~/Desktop/robotics-assignment-2/workspace$ git commit -m "Move file1.txt from docs to data and Copy file2.txt to logs"
[master 968e70b] Move file1.txt from docs to data and Copy file2.txt to logs
 2 files changed, 1 insertion(+)
 rename workspace/{docs => data}/file1.txt (100%)
 create mode 100644 workspace/logs/file2.txt
```

4. File Permissions and Ownership

```
toni@toni-ubuntu:~/Desktop/robotics-assignment-2/workspace$ chmod -R  766 scripts
toni@toni-ubuntu:~/Desktop/robotics-assignment-2/workspace$ ls -lah
total 24K
drwxrwxr-x 6 toni toni 4.0K Feb  8 18:24 .
drwxrwxr-x 4 toni toni 4.0K Feb  8 18:24 ..
drwxrwxr-x 2 toni toni 4.0K Feb  8 20:09 data
drwxrwxr-x 2 toni toni 4.0K Feb  8 20:09 docs
drwxrwxr-x 2 toni toni 4.0K Feb  8 20:10 logs
drwxrw-rw- 2 toni toni 4.0K Feb  8 18:26 scripts
toni@toni-ubuntu:~/Desktop/robotics-assignment-2/workspace$ chown Iyad:robotics data
chown: invalid user: ‘Iyad:robotics’
toni@toni-ubuntu:~/Desktop/robotics-assignment-2/workspace$ sudo useradd Iyad
[sudo] password for toni:
toni@toni-ubuntu:~/Desktop/robotics-assignment-2/workspace$ sudo groupadd robotics
toni@toni-ubuntu:~/Desktop/robotics-assignment-2/workspace$ chown Iyad:robotics data
chown: changing ownership of 'data': Operation not permitted
toni@toni-ubuntu:~/Desktop/robotics-assignment-2/workspace$ sudo chown Iyad:robotics data
toni@toni-ubuntu:~/Desktop/robotics-assignment-2/workspace$ ls -l
total 16
drwxrwxr-x 2 Iyad robotics 4096 Feb  8 20:09 data
drwxrwxr-x 2 toni toni     4096 Feb  8 20:09 docs
drwxrwxr-x 2 toni toni     4096 Feb  8 20:10 logs
drwxrw-rw- 2 toni toni     4096 Feb  8 18:26 scripts
toni@toni-ubuntu:~/Desktop/robotics-assignment-2/workspace$ git status
On branch master
Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git restore <file>..." to discard changes in working directory)
        modified:   scripts/setup.sh

no changes added to commit (use "git add" and/or "git commit -a")
toni@toni-ubuntu:~/Desktop/robotics-assignment-2/workspace$ git add -u
toni@toni-ubuntu:~/Desktop/robotics-assignment-2/workspace$ git status
On branch master
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
        modified:   scripts/setup.sh

toni@toni-ubuntu:~/Desktop/robotics-assignment-2/workspace$ git commit -m "Allow only the user to execute scripts and Change ownership of data to Iyad user and robotics group."
[master 1e232b9] Allow only the user to execute scripts and Change ownership of data to Iyad user and robotics group.
 1 file changed, 0 insertions(+), 0 deletions(-)
 mode change 100644 => 100755 workspace/scripts/setup.sh
```

#In this command ‘chmod -R 766 scripts’ 7 means that the user will have read write execute permissions, 66 means that the group and other will have only read, write permissions. So, only the user will have execute permission. -R is recursive because scripts is a folder and these permissions should be applied on all the content if this folder. Then I have created a user called Iyad and group called robotics to give them the ownership of data folder. Finally, I have committed all these changes.

5. System Monitoring and Basic Networking

• Monitor disk space with df -h and directory size with du.

```
toni@toni-ubuntu:/$ df -h
Filesystem      Size  Used Avail Use% Mounted on
tmpfs           1.6G  2.3M  1.6G   1% /run
/dev/sda2       916G   18G  852G   3% /
tmpfs           7.8G   72M  7.7G   1% /dev/shm
tmpfs           5.0M  4.0K  5.0M   1% /run/lock
efivarfs        128K   73K   51K  59% /sys/firmware/efi/efivars
/dev/nvme0n1p1   96M   32M   65M  33% /boot/efi
tmpfs           1.6G  136K  1.6G   1% /run/user/1000
/dev/mmcblk0p1  120G  5.7G  114G   5% /media/toni/0090-E3AF
toni@toni-ubuntu:/$ du -sh /home/toni/Desktop/robotics-assignment-2/
568K    /home/toni/Desktop/robotics-assignment-2/
```

the flag -h in df and du is used to get the output in human readable format. And the additional flag -s used in du is used to get a summarized output hence only the total size of the folder.

• Display network configurations with ifconfig.

```
toni@toni-ubuntu:/$ ifconfig
docker0: flags=4099<UP,BROADCAST,MULTICAST>  mtu 1500
        inet 172.17.0.1  netmask 255.255.0.0  broadcast 172.17.255.255
        ether 02:42:dc:48:83:ab  txqueuelen 0  (Ethernet)
        RX packets 0  bytes 0 (0.0 B)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 0  bytes 0 (0.0 B)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING>  mtu 65536
        inet 127.0.0.1  netmask 255.0.0.0
        inet6 ::1  prefixlen 128  scopeid 0x10<host>
        loop  txqueuelen 1000  (Local Loopback)
        RX packets 1693  bytes 163989 (163.9 KB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 1693  bytes 163989 (163.9 KB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0

wlp4s0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST>  mtu 1500
        inet 192.168.1.24  netmask 255.255.255.0  broadcast 192.168.1.255
        inet6 fe80::f4f2:8a99:1087:ea4f  prefixlen 64  scopeid 0x20<link>
        ether 88:b1:11:ce:7f:b6  txqueuelen 1000  (Ethernet)
        RX packets 66377  bytes 60517672 (60.5 MB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 32845  bytes 9843476 (9.8 MB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0
```

The ifconfig command shows the network configuration of my system, such as IP address (192.168.1.24) , network interfaces, and their status.

• Check internet connectivity using ping.

```
toni@toni-ubuntu:/$ ping google.com
PING google.com (172.217.171.206) 56(84) bytes of data.
64 bytes from mrs09s06-in-f14.1e100.net (172.217.171.206): icmp_seq=1 ttl=117 time=40.1 ms
64 bytes from mrs09s06-in-f14.1e100.net (172.217.171.206): icmp_seq=2 ttl=117 time=42.5 ms
64 bytes from mrs09s06-in-f14.1e100.net (172.217.171.206): icmp_seq=3 ttl=117 time=40.8 ms
64 bytes from mrs09s06-in-f14.1e100.net (172.217.171.206): icmp_seq=4 ttl=117 time=42.9 ms
^C
--- google.com ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3005ms
rtt min/avg/max/mdev = 40.097/41.565/42.925/1.174 ms
```

using ping google.com I am basically sending packets to google.com and I am waiting to receive them. So, here I can see that 4 packets are transmitted and 4 are received this means that my system have access to the internet.

• Capture and document all outputs.

```
toni@toni-ubuntu:~/Desktop/robotics-assignment-2$ mkdir system-monitoring
toni@toni-ubuntu:~/Desktop/robotics-assignment-2$ mkdir basic-networking
toni@toni-ubuntu:~/Desktop/robotics-assignment-2$ ls
basic-networking  system-monitoring  workspace
toni@toni-ubuntu:~/Desktop/robotics-assignment-2$ df -h >system-monitoring/disk_space.txt
toni@toni-ubuntu:~/Desktop/robotics-assignment-2$ du -sh /home/toni/Desktop/robotics-assignment-2/ > system-monitoring/directory_size.txt
toni@toni-ubuntu:~/Desktop/robotics-assignment-2$ ifconfig > basic-networking/network-config.txt
toni@toni-ubuntu:~/Desktop/robotics-assignment-2$ ping google.com > basic-networking/ping-test.txt
^Ctoni@toni-ubuntu:~/Desktop/robotics-assignment-2$ cd basic-networking/
toni@toni-ubuntu:~/Desktop/robotics-assignment-2/basic-networking$ ls
network-config.txt  ping-test.txt
toni@toni-ubuntu:~/Desktop/robotics-assignment-2/basic-networking$ cat ping-test.txt
PING google.com (142.250.203.238) 56(84) bytes of data.
64 bytes from mrs08s21-in-f14.1e100.net (142.250.203.238): icmp_seq=1 ttl=117 time=40.8 ms
64 bytes from mrs08s21-in-f14.1e100.net (142.250.203.238): icmp_seq=2 ttl=117 time=41.7 ms
64 bytes from mrs08s21-in-f14.1e100.net (142.250.203.238): icmp_seq=3 ttl=117 time=40.8 ms
64 bytes from mrs08s21-in-f14.1e100.net (142.250.203.238): icmp_seq=4 ttl=117 time=41.2 ms
64 bytes from mrs08s21-in-f14.1e100.net (142.250.203.238): icmp_seq=5 ttl=117 time=40.3 ms
64 bytes from mrs08s21-in-f14.1e100.net (142.250.203.238): icmp_seq=6 ttl=117 time=43.2 ms
64 bytes from mrs08s21-in-f14.1e100.net (142.250.203.238): icmp_seq=7 ttl=117 time=46.3 ms
64 bytes from mrs08s21-in-f14.1e100.net (142.250.203.238): icmp_seq=8 ttl=117 time=42.0 ms
64 bytes from mrs08s21-in-f14.1e100.net (142.250.203.238): icmp_seq=9 ttl=117 time=39.9 ms
64 bytes from mrs08s21-in-f14.1e100.net (142.250.203.238): icmp_seq=10 ttl=117 time=40.2 ms

--- google.com ping statistics ---
10 packets transmitted, 10 received, 0% packet loss, time 9013ms
rtt min/avg/max/mdev = 39.947/41.645/46.288/1.797 ms
```

```
toni@toni-ubuntu:~/Desktop/robotics-assignment-2$ cat basic-networking/network-config.txt
docker0: flags=4099<UP,BROADCAST,MULTICAST>  mtu 1500
        inet 172.17.0.1  netmask 255.255.0.0  broadcast 172.17.255.255
        ether 02:42:dc:48:83:ab  txqueuelen 0  (Ethernet)
        RX packets 0  bytes 0 (0.0 B)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 0  bytes 0 (0.0 B)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING>  mtu 65536
        inet 127.0.0.1  netmask 255.0.0.0
        inet6 ::1  prefixlen 128  scopeid 0x10<host>
        loop  txqueuelen 1000  (Local Loopback)
        RX packets 1716  bytes 166154 (166.1 KB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 1716  bytes 166154 (166.1 KB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0

wlp4s0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST>  mtu 1500
        inet 192.168.1.24  netmask 255.255.255.0  broadcast 192.168.1.255
        inet6 fe80::f4f2:8a99:1087:ea4f  prefixlen 64  scopeid 0x20<link>
        ether 88:b1:11:ce:7f:b6  txqueuelen 1000  (Ethernet)
        RX packets 66753  bytes 60585487 (60.5 MB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 33072  bytes 9876228 (9.8 MB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0

toni@toni-ubuntu:~/Desktop/robotics-assignment-2$ cat system-monitoring/directory_size.txt
580K    /home/toni/Desktop/robotics-assignment-2/
toni@toni-ubuntu:~/Desktop/robotics-assignment-2$ cat system-monitoring/disk_space.txt
Filesystem      Size  Used Avail Use% Mounted on
tmpfs           1.6G  2.3M  1.6G   1% /run
/dev/sda2       916G   18G  852G   3% /
tmpfs           7.8G   68M  7.7G   1% /dev/shm
tmpfs           5.0M  4.0K  5.0M   1% /run/lock
efivarfs        128K   73K   51K  59% /sys/firmware/efi/efivars
/dev/nvme0n1p1   96M   32M   65M  33% /boot/efi
tmpfs           1.6G  136K  1.6G   1% /run/user/1000
/dev/mmcblk0p1  120G  5.7G  114G   5% /media/toni/0090-E3AF
toni@toni-ubuntu:~/Desktop/robotics-assignment-2$ git add .
toni@toni-ubuntu:~/Desktop/robotics-assignment-2$ git commit -m "System Monitoring and Basic Networking"
[master c266f1a] System Monitoring and Basic Networking
 4 files changed, 51 insertions(+)
 create mode 100644 basic-networking/network-config.txt
 create mode 100644 basic-networking/ping-test.txt
 create mode 100644 system-monitoring/directory_size.txt
 create mode 100644 system-monitoring/disk_space.txt
```

6. Bash Script for Automation

First, I will create a folder called manually-created-assignment and place all the manually created files inside it. Afterward, I will commit the changes and push the master branch to the remote repository. Next, I will create a new branch called automated-creation, where I will add a folder named automatically-created-assignment. Inside this folder, I will write a Bash script called setup.sh, which, when executed, will automatically recreate everything that was manually created earlier.

```
toni@toni-ubuntu:~/Desktop$ cd robotics-assignment-2/
toni@toni-ubuntu:~/Desktop/robotics-assignment-2$ ls
basic-networking  system-monitoring  workspace
toni@toni-ubuntu:~/Desktop/robotics-assignment-2$ mkdir manually-created-assignment
toni@toni-ubuntu:~/Desktop/robotics-assignment-2$ mv basic-networking/ system-monitoring/ workspace/ manually-created-assignment/
toni@toni-ubuntu:~/Desktop/robotics-assignment-2$ ls
manually-created-assignment
toni@toni-ubuntu:~/Desktop/robotics-assignment-2$ tree
.
└── manually-created-assignment
    ├── basic-networking
    │   ├── network-config.txt
    │   └── ping-test.txt
    ├── system-monitoring
    │   ├── directory_size.txt
    │   └── disk_space.txt
    └── workspace
        ├── data
        │   ├── file1.txt
        │   └── input.csv
        ├── docs
        │   ├── file2.txt
        │   ├── file3.txt
        │   ├── README.md
        │   ├── summary.txt
        │   └── welcome.txt
        ├── logs
        │   ├── file2.txt
        │   ├── search_results.txt
        │   └── system.log
        └── scripts
            └── setup.sh

8 directories, 15 files
toni@toni-ubuntu:~/Desktop/robotics-assignment-2$ git add .
toni@toni-ubuntu:~/Desktop/robotics-assignment-2$ git commit -m "Moving everything manually created to manually-created-assignment folder"
[master 37c71cf] Moving everything manually created to manually-created-assignment folder
 15 files changed, 0 insertions(+), 0 deletions(-)
 rename {basic-networking => manually-created-assignment/basic-networking}/network-config.txt (100%)
 rename {basic-networking => manually-created-assignment/basic-networking}/ping-test.txt (100%)
 rename {system-monitoring => manually-created-assignment/system-monitoring}/directory_size.txt (100%)
 rename {system-monitoring => manually-created-assignment/system-monitoring}/disk_space.txt (100%)
 rename {workspace => manually-created-assignment/workspace}/data/file1.txt (100%)
 rename {workspace => manually-created-assignment/workspace}/data/input.csv (100%)
 rename {workspace => manually-created-assignment/workspace}/docs/README.md (100%)
 rename {workspace => manually-created-assignment/workspace}/docs/file2.txt (100%)
 rename {workspace => manually-created-assignment/workspace}/docs/file3.txt (100%)
 rename {workspace => manually-created-assignment/workspace}/docs/summary.txt (100%)
 rename {workspace => manually-created-assignment/workspace}/docs/welcome.txt (100%)
 rename {workspace => manually-created-assignment/workspace}/logs/file2.txt (100%)
 rename {workspace => manually-created-assignment/workspace}/logs/search_results.txt (100%)
 rename {workspace => manually-created-assignment/workspace}/logs/system.log (100%)
 rename {workspace => manually-created-assignment/workspace}/scripts/setup.sh (100%)
```

```
toni@toni-ubuntu:~/Desktop/robotics-assignment-2$ git status
On branch master
nothing to commit, working tree clean
toni@toni-ubuntu:~/Desktop/robotics-assignment-2$ git checkout -b automated-creation
Switched to a new branch 'automated-creation'
toni@toni-ubuntu:~/Desktop/robotics-assignment-2$ mkdir automatically-created-assignment
toni@toni-ubuntu:~/Desktop/robotics-assignment-2$ cd automatically-created-assignment/
toni@toni-ubuntu:~/Desktop/robotics-assignment-2/automatically-created-assignment$ touch setup.sh
toni@toni-ubuntu:~/Desktop/robotics-assignment-2/automatically-created-assignment$ ls
setup.sh
toni@toni-ubuntu:~/Desktop/robotics-assignment-2/automatically-created-assignment$ code .
toni@toni-ubuntu:~/Desktop/robotics-assignment-2/automatically-created-assignment$
```

I will not provide screenshots of the setup.sh content to avoid redundancy, as it can be found in the GitHub repository inside the automatically-created-assignment folder for review and execution.

```
toni@toni-ubuntu:~/Desktop/robotics-assignment-2/automatically-created-assignment$ git status
On branch automated-creation
Untracked files:
  (use "git add <file>..." to include in what will be committed)
        ./

nothing added to commit but untracked files present (use "git add" to track)
toni@toni-ubuntu:~/Desktop/robotics-assignment-2/automatically-created-assignment$ git add .
toni@toni-ubuntu:~/Desktop/robotics-assignment-2/automatically-created-assignment$ git commit -m "Adding setup.sh bash script for automation inside automatically-created-assignment folder"
[automated-creation b2d076f] Adding setup.sh bash script for automation inside automatically-created-assignment folder
 1 file changed, 103 insertions(+)
 create mode 100755 automatically-created-assignment/setup.sh
```

After pushing the automated-creation branch, I merged it with master branch pushed before.