Task 1 – Basic Functions

```bash
#!/bin/bash

greet() {
    echo "Hello, $1!"
}

add() {
    sum=$(($1 + $2))
    echo "Sum is: $sum"
}

greet "Jenish"
add 5 10
```

```
Jenishs-MacBook-Air:shell jenishkotadiya$ ./function.sh
Hello, Jenish!
Sum is: 15
Jenishs-MacBook-Air:shell jenishkotadiya$
```

Task 2 – Disk & Memory Check (Simple)

```bash
#!/bin/bash

check_disk() {
    echo "Disk Usage:"
    df -h
}

check_memory() {
    echo "Memory Usage:"
    free -h
}

check_disk
echo "-------------"
check_memory
```

```
Sum is: 10
[Jenishs-MacBook-Air:shell jenishkotadiya$ vim disk_check.sh
[\Jenishs-MacBook-Air:shell jenishkotadiya$ chmod 777 disk_check.sh
[Jenishs-MacBook-Air:shell jenishkotadiya$ ./d
-bash: ./d: No such file or directory
[Jenishs-MacBook-Air:shell jenishkotadiya$ ./disk_check.sh
Disk Usage:
Filesystem       Size   Used  Avail Capacity iused ifree %iused  Mounted on
/dev/disk3s1s1   228Gi   17Gi  9.5Gi   64%   426k  100M    0%   /
devfs            213Ki  213Ki    0Bi  100%    736     0  100%   /dev
/dev/disk3s6     228Gi  2.0Gi  9.5Gi   18%      2  100M    0%   /System/Volumes/VM
/dev/disk3s2     228Gi   14Gi  9.5Gi   60%   1.9k  100M    0%   /System/Volumes/Preboot
/dev/disk3s4     228Gi  741Mi  9.5Gi    8%    327  100M    0%   /System/Volumes/Update
/dev/disk1s2     500Mi  6.0Mi  483Mi    2%      1  4.9M    0%   /System/Volumes/xarts
/dev/disk1s1     500Mi  5.6Mi  483Mi    2%     34  4.9M    0%   /System/Volumes/iSCPreboot
/dev/disk1s3     500Mi  872Ki  483Mi    1%     65  4.9M    0%   /System/Volumes/Hardware
/dev/disk3s5     228Gi  183Gi  9.5Gi   96%   1.4M  100M    1%   /System/Volumes/Data
map auto_home      0Bi    0Bi    0Bi  100%      0     0    -    /System/Volumes/Data/home
/dev/disk4       1.2Gi  1.2Gi   11Mi  100%    27k  4.3G    0%   /Volumes/MySQL Workbench community-8.0.45
/dev/disk5s1     455Mi  362Mi   93Mi   80%     24  4.3G    0%   /Volumes/PostgreSQL 18.1-1
/dev/disk6s1     1.6Gi  1.1Gi  472Mi   72%   1.2k  4.3G    0%   /Volumes/UTM
/dev/disk8s1     186Mi  152Mi   32Mi   83%      8  330k    0%   /Volumes/VirtualBox
/dev/disk2s1     5.0Gi  1.9Gi  3.1Gi   38%     66   33M    0%   /System/Volumes/Update/SFR/mnt1
/dev/disk3s1     228Gi   17Gi  9.5Gi   64%   453k  100M    0%   /System/Volumes/Update/mnt1
-------------
Memory Usage:
./disk_check.sh: line 10: free: command not found
Jenishs-MacBook-Air:shell jenishkotadiya$
```

Task 3 – Strict Mode

```
#!/bin/bash
set -euo pipefail

echo "Strict mode ON"

name="Jenish"
echo $name

# Uncomment below line to see error
# echo $age

echo "Script finished"

~

~

~
```

```
[Jenishs-MacBook-Air:shell jenishkotadiya$ vim strict_demo.sh
[Jenishs-MacBook-Air:shell jenishkotadiya$ chmod strict_demo.sh
usage:  chmod [-fhv] [-R [-H | -L | -P]] [-a | +a | =a  [i][# [ n]]] mode|entry file ...
        chmod [-fhv] [-R [-H | -L | -P]] [-E | -C | -N | -i | -I] file ...
[Jenishs-MacBook-Air:shell jenishkotadiya$ chmod 777 strict_demo.sh
[Jenishs-MacBook-Air:shell jenishkotadiya$ ./strict_demo.sh
Strict mode ON
Jenish
Script finished
Jenishs-MacBook-Air:shell jenishkotadiya$
```

Task 4 – Local Variables

```bash
#!/bin/bash

my_function() {
    local name="Jenish"
    echo "Inside function: $name"
}

my_function
echo "Outside function: $name"
```

```
[Jenishs-MacBook-Air:shell jenishkotadiya$ chmod 777 local_demo.sh
[Jenishs-MacBook-Air:shell jenishkotadiya$
[Jenishs-MacBook-Air:shell jenishkotadiya$ ./l
-bash: ./l: No such file or directory
[Jenishs-MacBook-Air:shell jenishkotadiya$ ./local_demo.sh
Inside function: Jenish
Outside function:
Jenishs-MacBook-Air:shell jenishkotadiya$
```

Task 5 – Simple System Info Script

```bash
#!/bin/bash
set -euo pipefail

show_hostname() {
    echo "Hostname:"
    hostname
}

show_uptime() {
    echo "Uptime:"
    uptime
}

show_disk() {
    echo "Disk Usage:"
    df -h
}

show_memory() {
    echo "Memory:"
    free -h
}

main() {
    show_hostname
    echo "----------------"
    show_uptime
    echo "----------------"
    show_disk
    echo "----------------"
    show_memory
}

main

~
~
~
~
~
~
```

```
Outside function:
[Jenishs-MacBook-Air:shell jenishkotadiya$ vim system_info.sh
[Jenishs-MacBook-Air:shell jenishkotadiya$ chmod 777 system_info.sh
[Jenishs-MacBook-Air:shell jenishkotadiya$
[Jenishs-MacBook-Air:shell jenishkotadiya$ ./system_info.sh
Hostname:
Jenishs-MacBook-Air.local
----------------
Uptime:
22:28  up 46 days,  1:22, 2 users, load averages: 1.34 1.64 1.59
----------------
Disk Usage:
Filesystem       Size    Used   Avail Capacity iused ifree %iused  Mounted on
/dev/disk3s1s1   228Gi    17Gi   9.5Gi    64%    426k  100M    0%   /
devfs            213Ki   213Ki    0Bi   100%     736     0  100%   /dev
/dev/disk3s6     228Gi   2.0Gi   9.5Gi    18%      2   100M    0%   /System/Volumes/VM
/dev/disk3s2     228Gi    14Gi   9.5Gi    60%    1.9k  100M    0%   /System/Volumes/Preboot
/dev/disk3s4     228Gi   741Mi   9.5Gi     8%     327  100M    0%   /System/Volumes/Update
/dev/disk1s2     500Mi   6.0Mi   483Mi     2%       1  4.9M    0%   /System/Volumes/xarts
/dev/disk1s1     500Mi   5.6Mi   483Mi     2%      34  4.9M    0%   /System/Volumes/iSCPreboot
/dev/disk1s3     500Mi   872Ki   483Mi     1%      65  4.9M    0%   /System/Volumes/Hardware
/dev/disk3s5     228Gi   183Gi   9.5Gi    96%    1.4M  100M    1%   /System/Volumes/Data
map auto_home      0Bi     0Bi     0Bi   100%       0     0     -   /System/Volumes/Data/home
/dev/disk4       1.2Gi   1.2Gi    11Mi   100%     27k  4.3G    0%   /Volumes/MySQL Workbench community-8.0.45
/dev/disk5s1     455Mi   362Mi    93Mi    80%      24  4.3G    0%   /Volumes/PostgreSQL 18.1-1
/dev/disk6s1     1.6Gi   1.1Gi   472Mi    72%    1.2k  4.3G    0%   /Volumes/UTM
/dev/disk8s1     186Mi   152Mi    32Mi    83%       8  330k    0%   /Volumes/VirtualBox
/dev/disk2s1     5.0Gi   1.9Gi   3.1Gi    38%      66   33M    0%   /System/Volumes/Update/SFR/mnt1
/dev/disk3s1     228Gi    17Gi   9.5Gi    64%    453k  100M    0%   /System/Volumes/Update/mnt1
----------------
Memory:
./system_info.sh: line 21: free: command not found
Jenishs-MacBook-Air:shell jenishkotadiya$ █
```