Experiment 08

Aim: Basic programs in shell scripting

1. **WAP to check whether no. entered is even or odd**

```
localhost:~# vi evenodd.sh
#!/bin/bash
read -p "Enter a number: " num

if [ $((num % 2)) -eq 0 ]
then
    echo "Your number is even"
else
    echo "Your number is odd"
fi

~
~

localhost:~# chmod 711 evenodd.sh
localhost:~# ./evenodd.sh
Enter a number: 12
Your number is even
```

2. **WAP to print the factorial of a number**

```
localhost:~# vi factorial.sh
#!/bin/bash
read -p "Enter a number: " num

factorial=1

for ((i = 1; i <= num; i++))
do
    factorial=$((factorial * i))
done

echo "Factorial: $factorial"
~
localhost:~# chmod 711 factorial.sh
localhost:~# ./factorial.sh
Enter a number: 5
Factorial: 120
```

3. WAP to create directories through vi text editor

```
localhost:~# vi directories.sh
#!/bin/bash
mkdir -p {Maths, English}/{Notes, Examresults}
~
~
localhost:~/Akshat# chmod +x directories.sh
localhost:~/Akshat# ./directories.sh
localhost:~/Akshat# ls -R
.:
English}          Examresults}     directories.sh  {Maths,

./English}:
{Notes,

./English}/{Notes,:

./Examresults}:

./{Maths,:
```

4. WAP to read a file into a variable

```
localhost:~/Akshat# cat > mysamplefile.txt
This is exp 8 of OS Lab.
localhost:~/Akshat# vi readfile.sh
~
#!/bin/bash
myvalue=$(cat mysamplefile.txt)
echo "$myvalue"

localhost:~/Akshat# chmod 711 readfile.sh
localhost:~/Akshat# ./readfile.sh
This is exp 8 of OS Lab.
```

5. WAP to read a file line by line

```
localhost:~/Akshat# cat > car.txt
MG Hector
Grand Vitara
Mercedes Benz
localhost:~/Akshat# vi printfile.sh
#!/bin/bash
myfile="car.txt"
i=1
while read lines; do
    echo "$i: $lines"
    i=$((i+1))
done < "$myfile"

~
~
localhost:~/Akshat# chmod 711 printfile.sh
localhost:~/Akshat# ./printfile.sh
1: MG Hector
2: Grand Vitara
3: Mercedes Benz
```

6. WAP to display system information

```
localhost:~/Akshat# vi system.sh
#!/bin/bash
echo "Date"
date
echo "Uptime"
uptime
echo "Memory usage"
free -m
echo "Network usage"
ip a
~
localhost:~/Akshat# chmod 711 system.sh
localhost:~/Akshat# ./system.sh
Date
Mon Mar 10 18:00:56 UTC 2025
Uptime
 18:00:57 up 5 min,  load average: 0.00, 0.00, 0.00
Memory usage
              total        used        free      shared  buff/cache   available
Mem:            119           4         113           0           1         112
Swap:             0           0           0
Network usage
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
       valid_lft forever preferred_lft forever
2: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc pfifo_fast state UNKNOWN qlen 1000
    link/ether 02:b4:01:49:4e:45 brd ff:ff:ff:ff:ff:ff
```

7. WAP to find and replace text in a string

```
localhost:~/Akshat# vi findreplace.sh
#!/bin/bash
first="I drive BMW and Volvo"
second="Audi"
echo "${first/BMW/$second}"
~
localhost:~/Akshat# chmod u+rwx findreplace.sh
localhost:~/Akshat# ./findreplace.sh
I drive Audi and Volvo
```