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ASSIGNMENT NO : 2

SUBMITTED TO : PROF MUDASSAR

SUBMITTED BY : UROOJ

CLASS : BSCS 8 (G)

ROLL NO : G3F18BSCS0002

SUBJECT : SYSTEM PROGRAMMING

SUBMISSION DATE : APRIL 16 , 2022

Shell Script :-

1. If Statement :-

```
urooj@DESKTOP-L4GPMHQ: ~

echo "Is it morning? Please answer yes or no"
read timeofday

if [ $timeofday = "yes" ]; then
 echo "Good morning"
else
 echo "Good afternoon"
fi
exit 0
```

Output :-

```
urooj@DESKTOP-L4GPMHQ:~$ vi if
urooj@DESKTOP-L4GPMHQ:~$ chmod +x if
urooj@DESKTOP-L4GPMHQ:~$ ./if
Is it morning? Please answer yes or no
yes
Good morning
```

2. Elif statement :-

```
urooj@DESKTOP-L4GPMHQ: ~
echo "Is it morning? Please yes or no"
read timeofday
if [ $timeofday = "yes" ]
then
 echo "Good morning"
elif [ $timeofday = "no" ]; then
 echo "Good afternoon"
else
 echo "Sorry, $timeofday not recognized. Enter yes or no"
 exit 1
fi
exit 0
```

Output :-

```
urooj@DESKTOP-L4GPMHQ:~$ vi elif
urooj@DESKTOP-L4GPMHQ:~$ chmod +x elif
urooj@DESKTOP-L4GPMHQ:~$ ./elif
Is it morning? Please yes or no
no
Good afternoon
```

3. For statement :-

```
urooj@DESKTOP-L4GPMHQ: ~
for foo in bar fud 43
do
 echo $foo
done
exit 0
```

Output :-

```
urooj@DESKTOP-L4GPMHQ:~$ vi for
urooj@DESKTOP-L4GPMHQ:~$ chmod +x for
urooj@DESKTOP-L4GPMHQ:~$ ./for
bar
fud
43
```

4. While statement :-

```
urooj@DESKTOP-L4GPMHQ: ~
echo "Enter password"
read trythis
while [ "$trythis" != "secret" ];do
 echo "Sorry, try again"
 read trythis
done
exit 0
```

Output :-

```
urooj@DESKTOP-L4GPMHQ:~$ vi while
urooj@DESKTOP-L4GPMHQ:~$ chmod +x while
urooj@DESKTOP-L4GPMHQ:~$ ./while
Enter password
abc
Sorry, try again
secret
```

5. **Cases :-**
    Case 1 : User Input

```
urooj@DESKTOP-L4GPMHQ: ~
echo "Is it morning? Please answer yes or no"
read timeofday
case "$timeofday" in
    yes) echo "Good Morning";;
    no ) echo "Good Afternoon";;
    y  ) echo "Good Morining";;
    n  ) echo "Good Afternoon";;
    *  ) echo "Sorry, answer not recognized";;
esac
exit 0
```

Output :-

```
urooj@DESKTOP-L4GPMHQ:~$ chmod +x case
urooj@DESKTOP-L4GPMHQ:~$ ./case
Is it morning? Please answer yes or no
n
Good Afternoon
```

Case 2 : Putting Patterns Together

```
urooj@DESKTOP-L4GPMHQ: ~
echo "Is it morning? Please answer yes or no"
read timeofday
case "$timeodday" in
    yes | y | Yes | YES )     echo "Good Morning";;
    n* | N* )                 echo "Good Afternoon";;
    * )                       echo "Sorry, answer not recognized";;
esac
exit 0
```

Output :-

```
urooj@DESKTOP-L4GPMHQ:~$ chmod +x patterns
urooj@DESKTOP-L4GPMHQ:~$ ./patterns
Is it morning? Please answer yes or no
never
Sorry, answer not recognized
```

Case 3 : Executing Multiple Statements

```
urooj@DESKTOP-L4GPMHQ: ~
echo "Is it morning? Please answer yes or no"
read timeofday
case "$timeofday" in
  yes | Y | Yes | YES )
        echo "Good Morning"
        echo "Up bright and early this morning"
        ;;
*)
        echo "Sorry, answer not recognized"
        echo "Please answer yes or no"
        exit 1
        ;;
esac
exit 0
```

Output :-

```
urooj@DESKTOP-L4GPMHQ:~$ vi multiplestatements
urooj@DESKTOP-L4GPMHQ:~$ chmod +x multiplestatements
urooj@DESKTOP-L4GPMHQ:~$ ./multiplestatements
Is it morning? Please answer yes or no
Y
Good Morning
Up bright and early this morning
```

6. And List :-

```
urooj@DESKTOP-L4GPMHQ: ~
touch file_one
rm -f dairy
if [ -f file_one ] && echo "hello" && [ -f dairy ] && echo "there"
then
     echo "in if"
else
     echo "in else"
fi
exit 0
```

Output :-

```
urooj@DESKTOP-L4GPMHQ:~$ vi and
urooj@DESKTOP-L4GPMHQ:~$ chmod +x and
urooj@DESKTOP-L4GPMHQ:~$ ./and
hello
in else
```

7. Or List :-


```
urooj@DESKTOP-L4GPMHQ: ~

rm -f file_one
if [ -f file_one ] || echo "hello" || echo "there"
then
    echo "in if"
else
    echo "in else"
fi
exit 0
```

Output :-


```
urooj@DESKTOP-L4GPMHQ:~$ vi or
urooj@DESKTOP-L4GPMHQ:~$ chmod +x or
urooj@DESKTOP-L4GPMHQ:~$ ./or
hello
in if
```

8. Functions :-
  ➔ Simple Function :-


```
urooj@DESKTOP-L4GPMHQ: ~

foo() {
    echo "Function foo is executing"
}
echo "script starting"
foo
echo "script ended"
exit 0
```

Output :-


```
urooj@DESKTOP-L4GPMHQ:~$ vi function
urooj@DESKTOP-L4GPMHQ:~$ chmod +x function
urooj@DESKTOP-L4GPMHQ:~$ ./function
script starting
Function foo is executing
script ended
```

➔ Local & Global Variables :-

```
urooj@DESKTOP-L4GPMHQ: ~
sample_text="global variable"
foo() {
    local sample_text="local variable"
    echo "Function foo is executing"
    echo $sample_text
}
echo "script starting"
echo $sample_text
foo
echo "script ended"
echo $sample_text
exit 0
```

Output :-

```
urooj@DESKTOP-L4GPMHQ:~$ vi local
urooj@DESKTOP-L4GPMHQ:~$ chmod +x local
urooj@DESKTOP-L4GPMHQ:~$ ./local
script starting
global variable
Function foo is executing
local variable
script ended
global variable
```

➔ Returning a Value :-

```
urooj@DESKTOP-L4GPMHQ: ~
yes_or_no() {
  echo "Is your name arooj $* ?"
  while true
  do
    echo -n "Enter yes or no: "
    read x
    case "$x" in
       y | yes ) return 0;;
       n | no )  return 1;;
       * )       echo "Answer yes or no"
    esac
  done
}
echo "Original parameters are $*"
if yes_or_no "$1"
then
  echo "Hi $1, nice name"
else
  echo "Never mind"
fi
exit 0
```

Output :-

```
urooj@DESKTOP-L4GPMHQ:~$ vi value
urooj@DESKTOP-L4GPMHQ:~$ chmod +x value
urooj@DESKTOP-L4GPMHQ:~$ ./value
Original parameters are
Is your name arooj  ?
Enter yes or no: yes
Hi , nice name
```

9. Break :-

```
urooj@DESKTOP-L4GPMHQ: ~
rm -rf ucp*
echo > ucp1
echo > ucp2
mkdir ucp3
echo > ucp4
for file in ucp*
do
 if [ -d "$file" ]; then
break;
 fi
done
echo first directory starting ucp was $file
rm -rf ucp*
exit 0
```

Output :-

```
urooj@DESKTOP-L4GPMHQ:~$ vi break
urooj@DESKTOP-L4GPMHQ:~$ chmod +x break
urooj@DESKTOP-L4GPMHQ:~$ ./break
first directory starting ucp was ucp3
urooj@DESKTOP-L4GPMHQ:~$ vi break
```

10. Continue :-

```
urooj@DESKTOP-L4GPMHQ: ~
rm -rf ucp*
echo > ucp1
echo > ucp 2
mkdir ucp3
echo > ucp4
for file in ucp*
do
  if [ -d "$file" ]; then
      echo "skipping directory $file"
      continue
  fi
  echo file is $file
done
rm -rf ucp*
exit 0
```

Output :-

```
file is ucp4
urooj@DESKTOP-L4GPMHQ:~$ vi continue
urooj@DESKTOP-L4GPMHQ:~$ chmod +x continue
urooj@DESKTOP-L4GPMHQ:~$ ./continue
file is ucp
file is ucp1
skipping directory ucp3
file is ucp4
```