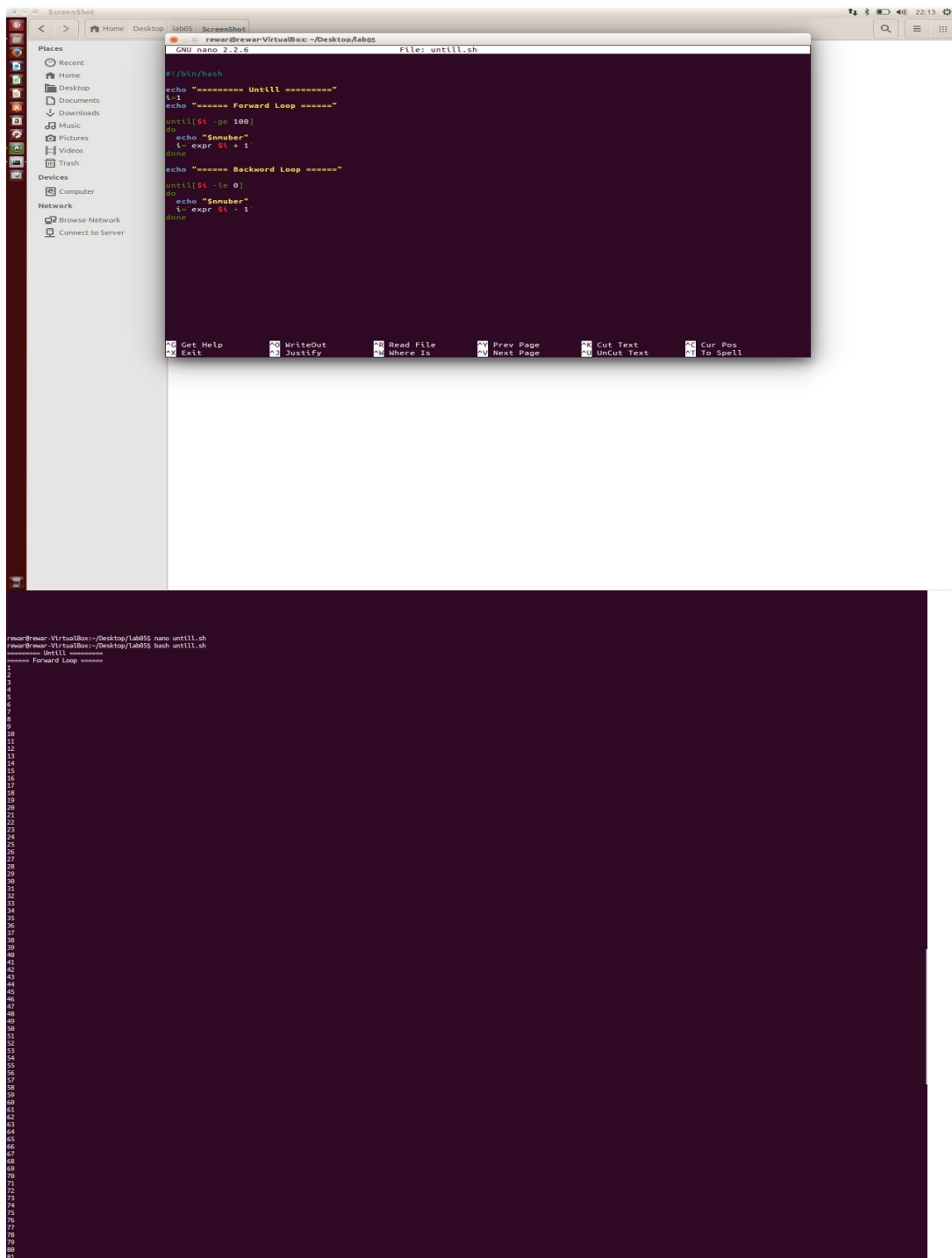


**Muhammd Fahad**  
**Operating System lab**  
**AM**

**Until or Function Question**

## Task 01 (Until Loop):



```
GNU nano 2.2.6 File: untill.sh

#!/bin/bash
echo "===== Untill ====="
i=1
echo "===== Forward Loop ====="
until [ $i -ge 100 ]
do
    echo "$number"
    i=expr $i + 1
done
echo "===== Backword Loop ====="
until [ $i -le 0 ]
do
    echo "$number"
    i=expr $i - 1
done

Get Help  WrittenOut  Read File  Prev Page  Cut Text  Cur Pos
Exit      Justify    Where Is  Next Page  UnCut Text  To Spell
```

```
rewar@rewar-VirtualBox:~/Desktop/lab05$ nano untill.sh
rewar@rewar-VirtualBox:~/Desktop/lab05$ bash untill.sh
===== Untill =====
===== Forward Loop =====
1
2
3
4
5
6
7
8
9
10
11
12
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99  
Backword Loop  
180  
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21  
20

```
GNU nano 2.2.6 File: factorial.sh

#!/bin/sh

echo "===== Untill ====="
echo "===== Factorial program ====="

echo "Enter Number (factorial): "
read i

a=$i
answer=$i
ansToPrint="$i"

until [ $a -ge 2 ]
do
    a=`expr $a - 1`
    ansToPrint="$ansToPrint x $a "
    answer=`expr $answer \* $a`
done

echo "$ansToPrint = $answer"
```

Get Help  
Exit

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```
rewar@rewar-VirtualBox:~/Desktop/Lab05$ nano factorial.sh
rewar@rewar-VirtualBox:~/Desktop/Lab05$ bash factorial.sh
===== Untill =====
===== Factorial program =====
Enter Number (factorial):
5
5 x 4 x 3 x 2 x 1 = 120
rewar@rewar-VirtualBox:~/Desktop/Lab05$
```

```
rewar@rewar-VirtualBox:~/Desktop/lab05$ nano Table.sh
rewar@rewar-VirtualBox:~/Desktop/lab05$ bash Table.sh
===== Untill =====
===== Multiplication table. =====
Enter Number (multiplication):
5
5 x 1 = 5
5 x 2 = 10
5 x 3 = 15
5 x 4 = 20
5 x 5 = 25
5 x 6 = 30
5 x 7 = 35
5 x 8 = 40
5 x 9 = 45
5 x 10 = 50
rewar@rewar-VirtualBox:~/Desktop/lab05$
```

```
GNU nano 2.2.6 File: Table.sh
#!/bin/bash

echo "===== Untill ====="
echo "===== Multiplication table. ====="

echo "Enter Number (multiplication): "
read n

i=1
until [ $i -gt 10 ]
do
    sum=`expr $i \* $n`
    echo "$n x $i = $sum"
    i=`expr $i + 1`
done
```

Read 15 lines

Get Help

Exit

WriteOut

Justify

Read File

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Cur Pos

To Spell

## Task 02 (Function)

```
GNU nano 2.2.6 File: Function.sh

function tablePrint(){
  i=1
  until [ $i -gt 10 ]
  do
    sum=`expr $i \* $i`
    echo "$i x $i = $sum"
    i=`expr $i + 1`
  done
}

function factorial(){
  i=$1
  answer=$i
  ansToPrint="$i"

  while [ $i -ge 2 ]
  do
    i=`expr $i - 1`
    ansToPrint="$ansToPrint x $i"
    answer=`expr $answer \* $i`
  done

  echo "$ansToPrint = $answer"
}

function identify(){
  if [ `expr $1 % 2` == 0 ]
  then
    echo "odd"
  else
    echo "Even"
  fi
}

echo "Table from Function"
tablePrint 2
echo ""
echo "Factorial from Function"
factorial 5
echo ""
echo "Odd or Even from Function"
identify 5
```

Wrote 47 lines

Get Help Exit WriteOut Justify Read File Where Is Prev Page Next Page Cut Text UnCut Text Cur Pos To Spell

```
rewar@rewar-VirtualBox:~/Desktop/lab05$ nano Function.sh
rewar@rewar-VirtualBox:~/Desktop/lab05$ bash Function.sh
Table from Function
2 x 1 = 2
2 x 2 = 4
2 x 3 = 6
2 x 4 = 8
2 x 5 = 10
2 x 6 = 12
2 x 7 = 14
2 x 8 = 16
2 x 9 = 18
2 x 10 = 20

Factorial from Function
5 x 4 x 3 x 2 x 1 = 120

Odd or Even from Function
Even
rewar@rewar-VirtualBox:~/Desktop/lab05$
```