



RIPHAH  
INTERNATIONAL  
UNIVERSITY

## **Operating System**

**Lab # 11**

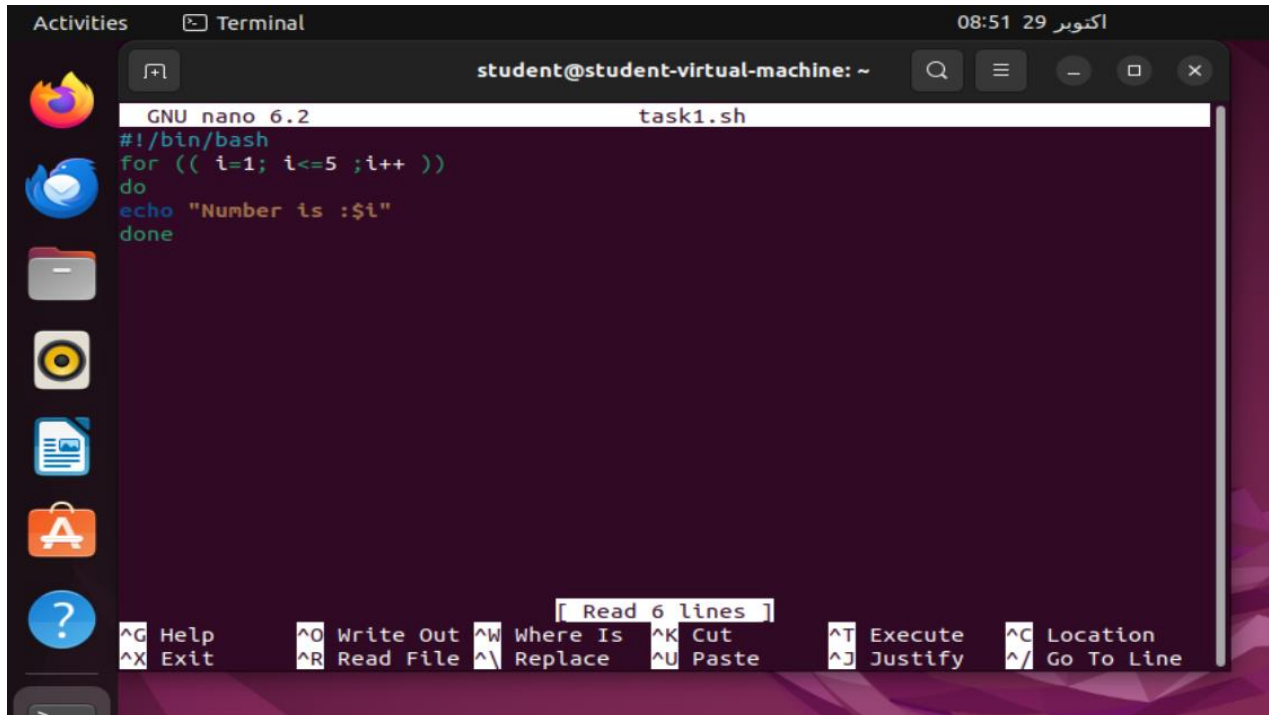
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**Batch: BSCS 5<sup>th</sup> semester**

**Submitted to: Mam Kausar**

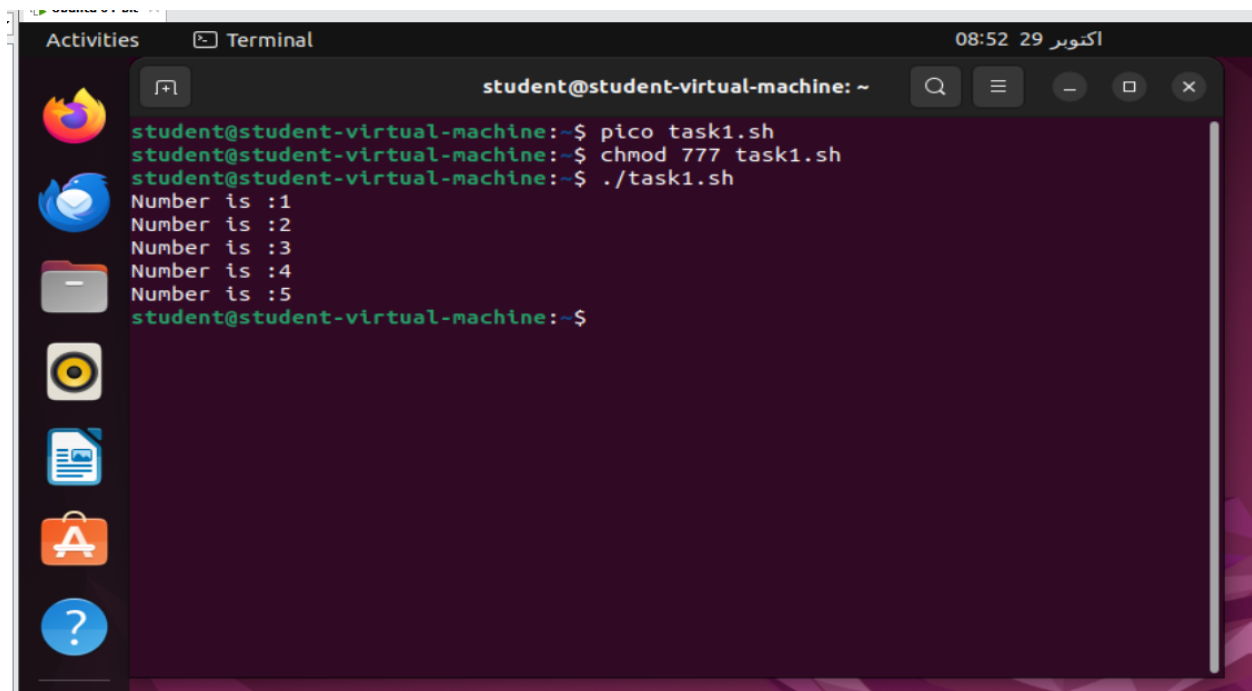
Q1. How do you create a basic `for` loop in a shell script to iterate over a list of numbers from 1 to 5?



```
student@student-virtual-machine: ~  
GNU nano 6.2 task1.sh  
#!/bin/bash  
for (( i=1; i<=5 ;i++ ))  
do  
echo "Number is :$i"  
done
```

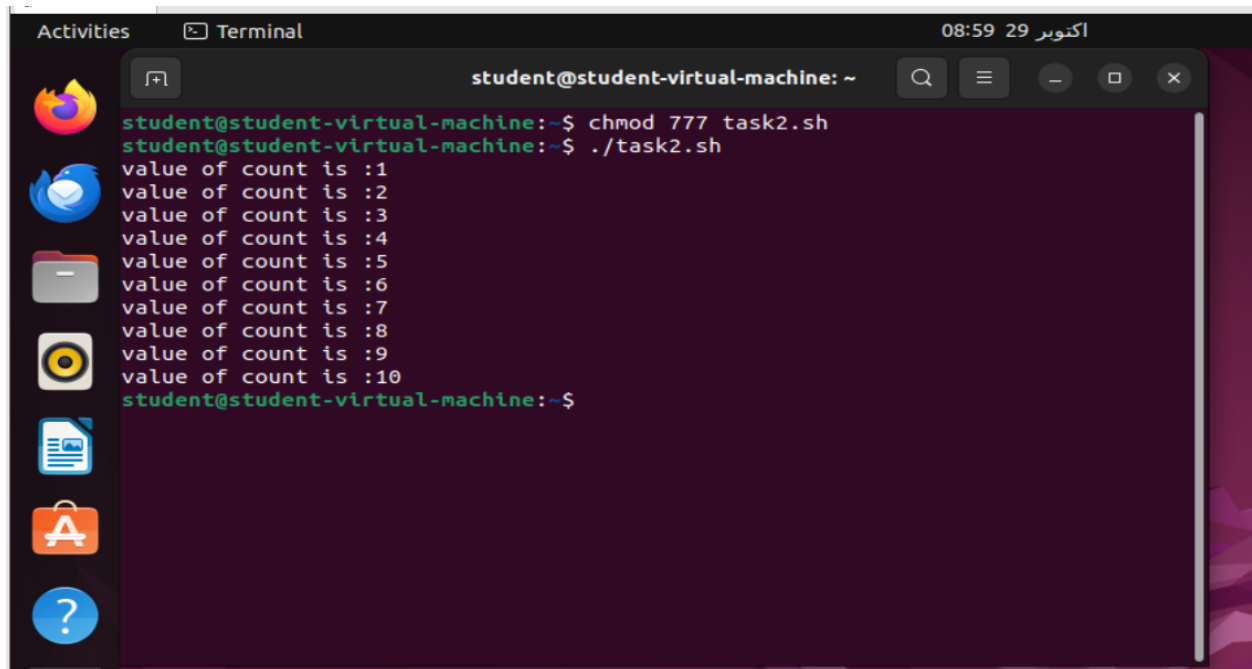
Read 6 lines

<b>^G</b> Help	<b>^O</b> Write Out	<b>^W</b> Where Is	<b>^K</b> Cut	<b>^T</b> Execute	<b>^C</b> Location
<b>^X</b> Exit	<b>^R</b> Read File	<b>^I</b> Replace	<b>^U</b> Paste	<b>^J</b> Justify	<b>^_</b> Go To Line



```
student@student-virtual-machine:~$ pico task1.sh  
student@student-virtual-machine:~$ chmod 777 task1.sh  
student@student-virtual-machine:~$ ./task1.sh  
Number is :1  
Number is :2  
Number is :3  
Number is :4  
Number is :5  
student@student-virtual-machine:~$
```

**Q2. What is the syntax for a `while` loop that counts from 1 to 10 and prints each number?**

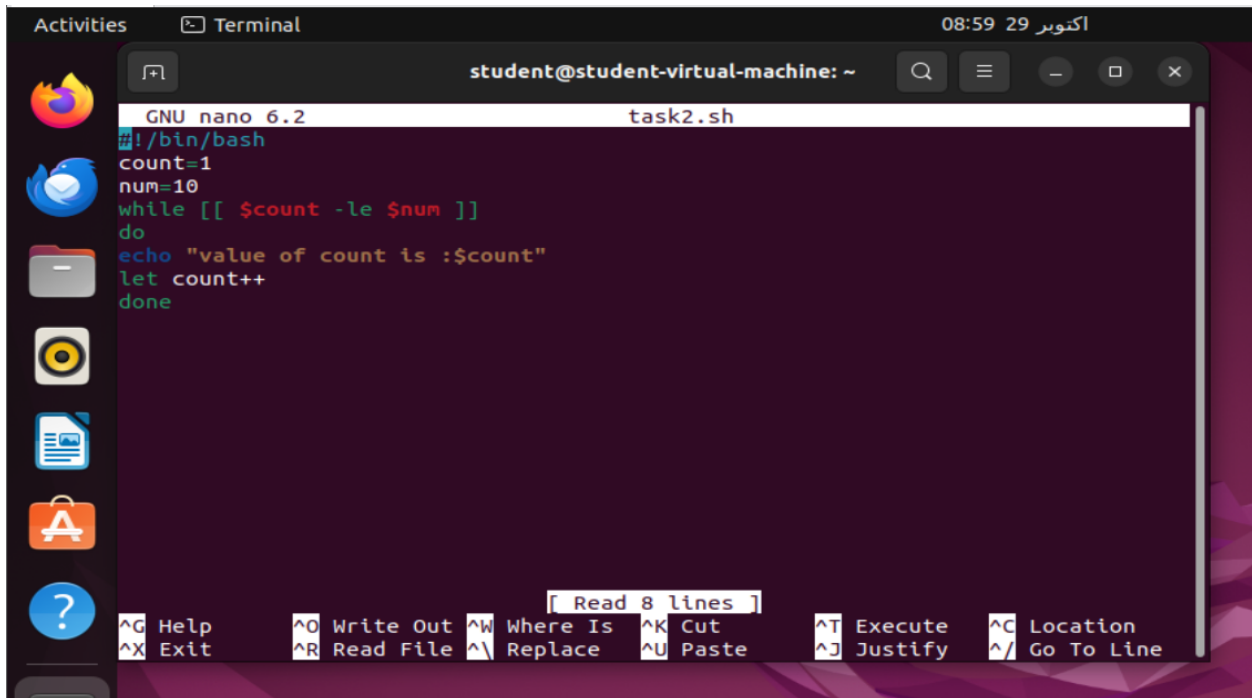


A terminal window titled "Terminal" with the prompt "student@student-virtual-machine: ~". The user has executed the following commands:

```
student@student-virtual-machine:~$ chmod 777 task2.sh
student@student-virtual-machine:~$ ./task2.sh
```

The output of the script is:

```
value of count is :1
value of count is :2
value of count is :3
value of count is :4
value of count is :5
value of count is :6
value of count is :7
value of count is :8
value of count is :9
value of count is :10
student@student-virtual-machine:~$
```



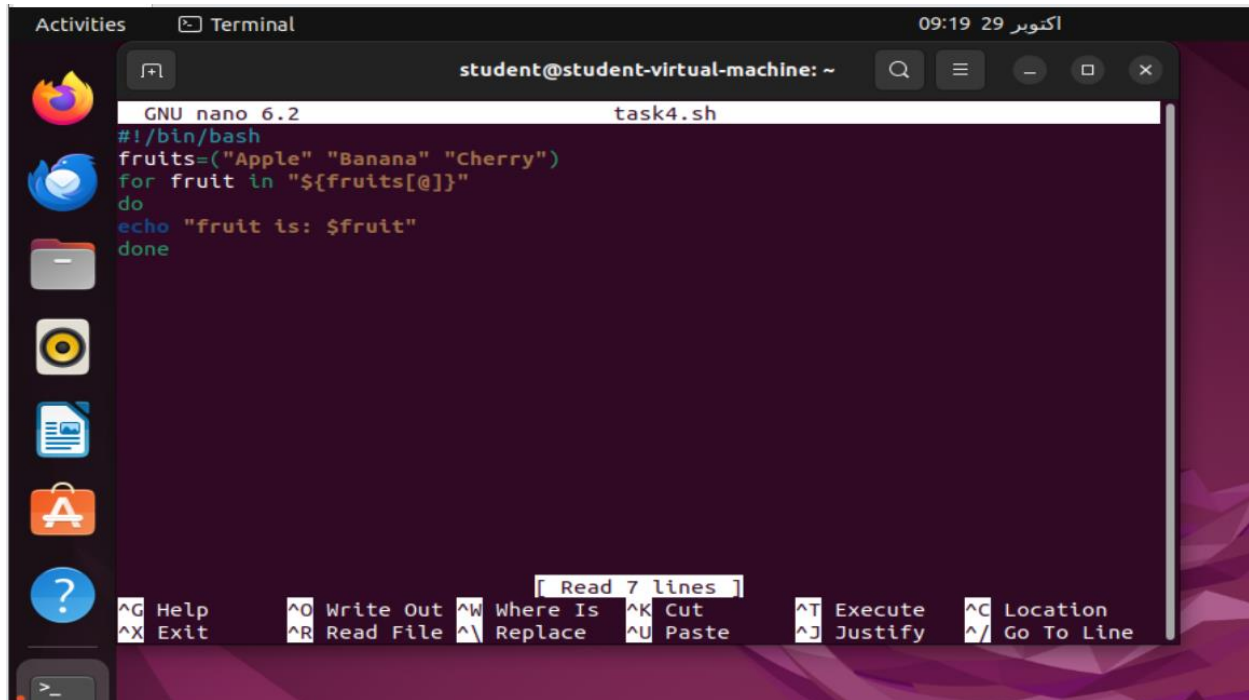
A terminal window titled "Terminal" with the prompt "student@student-virtual-machine: ~". The user is editing the file "task2.sh" using the GNU nano 6.2 editor. The source code of the script is as follows:

```
#!/bin/bash
count=1
num=10
while [[ $count -le $num ]]
do
echo "value of count is :$count"
let count++
done
```

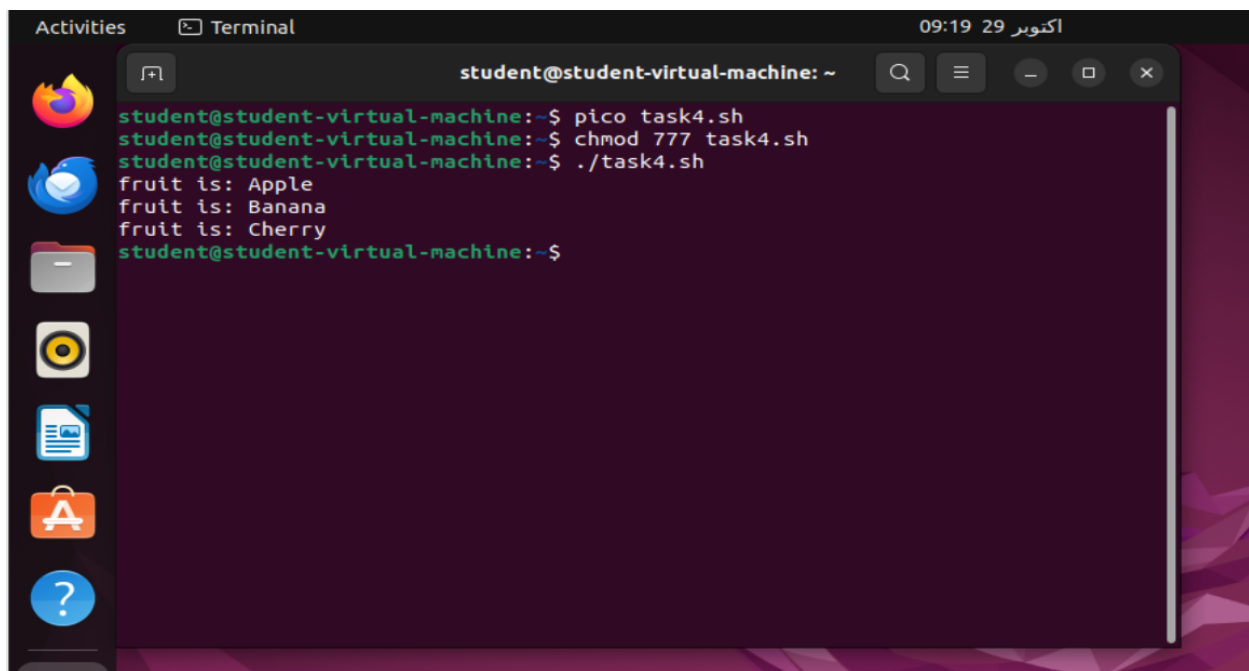
At the bottom of the terminal, a status bar shows the command "Read 8 lines" and a list of keyboard shortcuts:

<b>^G</b> Help	<b>^O</b> Write Out	<b>^W</b> Where Is	<b>^K</b> Cut	<b>^T</b> Execute	<b>^C</b> Location
<b>^X</b> Exit	<b>^R</b> Read File	<b>^I</b> Replace	<b>^U</b> Paste	<b>^J</b> Justify	<b>^_</b> Go To Line

**Q4: Write a for-in loop that iterates over the items in an array named `fruits` containing `apple`, `banana`, and `cherry`.**

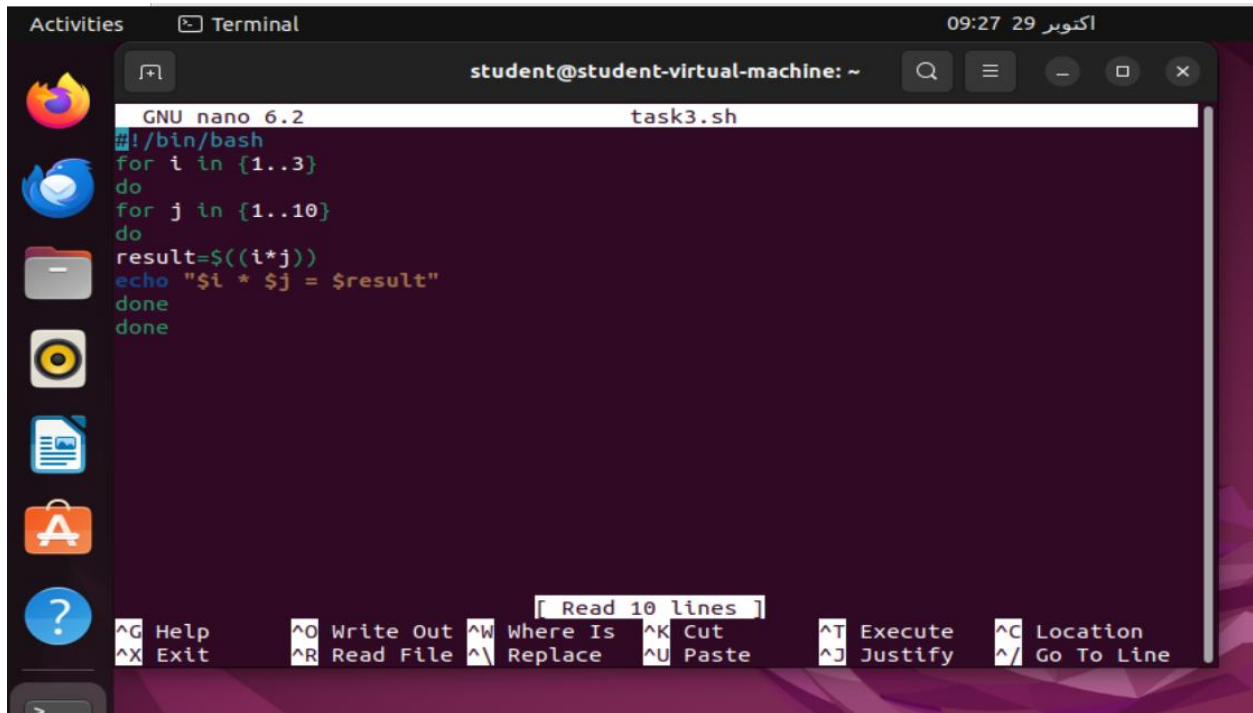


```
student@student-virtual-machine: ~  
GNU nano 6.2 task4.sh  
#!/bin/bash  
fruits=("Apple" "Banana" "Cherry")  
for fruit in "${fruits[@]}"  
do  
echo "fruit is: $fruit"  
done
```

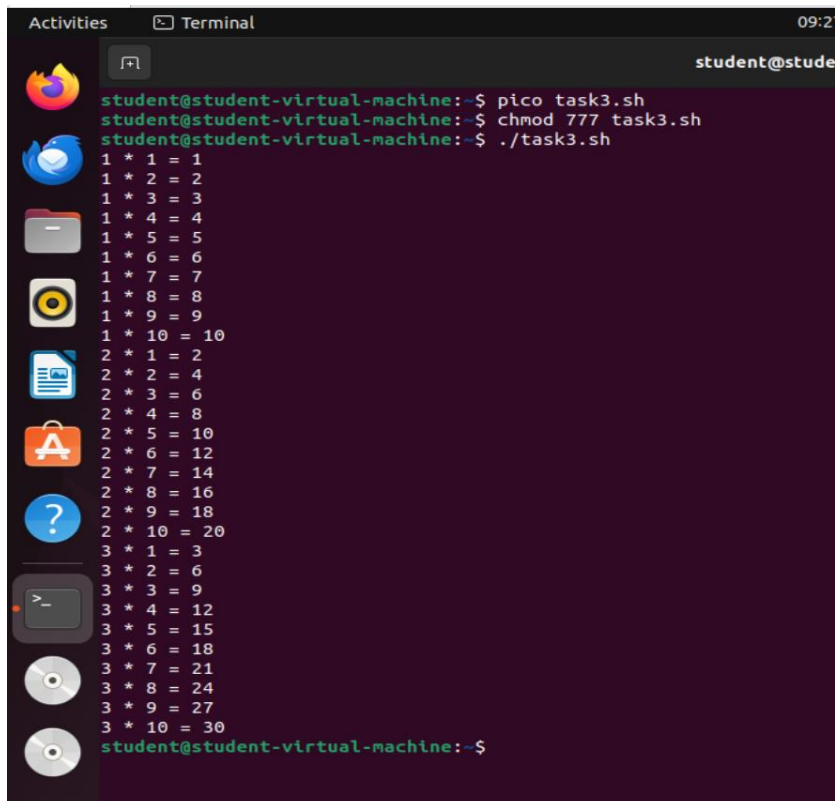


```
student@student-virtual-machine:~$ pico task4.sh  
student@student-virtual-machine:~$ chmod 777 task4.sh  
student@student-virtual-machine:~$ ./task4.sh  
fruit is: Apple  
fruit is: Banana  
fruit is: Cherry  
student@student-virtual-machine:~$
```

**Q3. How would you write a nested loop in shell scripting to print a multiplication table from 1 to 3?**



```
GNU nano 6.2 task3.sh
#!/bin/bash
for i in {1..3}
do
for j in {1..10}
do
result=$((i*j))
echo "$i * $j = $result"
done
done
```



```
student@student-virtual-machine:~$ pico task3.sh
student@student-virtual-machine:~$ chmod 777 task3.sh
student@student-virtual-machine:~$ ./task3.sh
1 * 1 = 1
1 * 2 = 2
1 * 3 = 3
1 * 4 = 4
1 * 5 = 5
1 * 6 = 6
1 * 7 = 7
1 * 8 = 8
1 * 9 = 9
1 * 10 = 10
2 * 1 = 2
2 * 2 = 4
2 * 3 = 6
2 * 4 = 8
2 * 5 = 10
2 * 6 = 12
2 * 7 = 14
2 * 8 = 16
2 * 9 = 18
2 * 10 = 20
3 * 1 = 3
3 * 2 = 6
3 * 3 = 9
3 * 4 = 12
3 * 5 = 15
3 * 6 = 18
3 * 7 = 21
3 * 8 = 24
3 * 9 = 27
3 * 10 = 30
student@student-virtual-machine:~$
```

Q5: Write a `while` loop that reads user input until the user types "exit".

```
student@student-virtual-machine:~$ pico task5.sh
student@student-virtual-machine:~$ chmod 777 task5.sh
student@student-virtual-machine:~$ ./task5.sh
enter num:4
enter num:4
enter num:5
enter num:6
enter num: ^C
student@student-virtual-machine:~$ ./task5.sh
enter num:3
enter num:2
enter num:8
enter num: ^Z
[1]+  Stopped                  ./task5.sh
student@student-virtual-machine:~$
```

```
GNU nano 6.2
#!/bin/bash
while true
do
read -p "enter num:" num
sleep 2s
done
```