Kahoot!

Linux Plus

for

AWS and DevOps

Session - 7

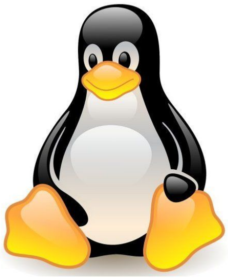


Table of Contents

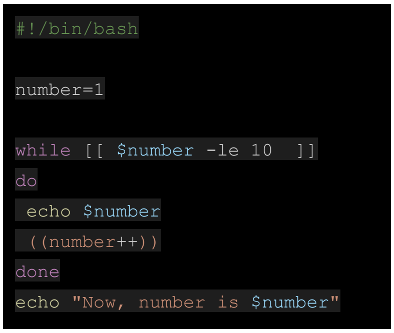
- Loops
- Functions

Shell Scripting

BASH
THE BOURNE-AGAIN SHELL

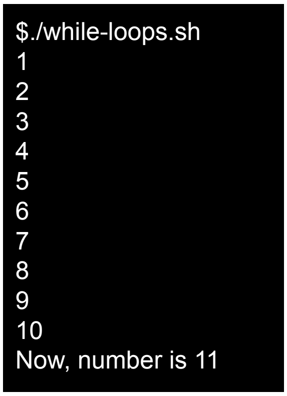
While loops

```
while [[ <some test> ]]
do
   <commands>
done
```



```
#!/bin/bash

number=1

while [[ $number -le 10  ]]
do
 echo $number
  ((number++))
done
echo "Now, number is $number"
```

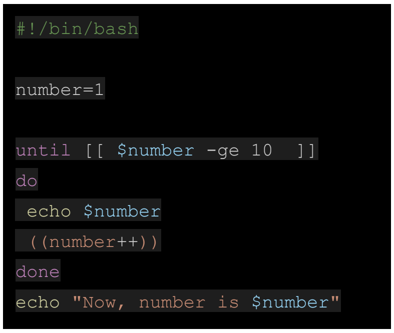
Output:



```
$./while-loops.sh
1
2
3
4
5
6
7
8
9
10
Now, number is 11
```

Until loops

```
until [[ <some test> ]]
do
   <commands>
done
```



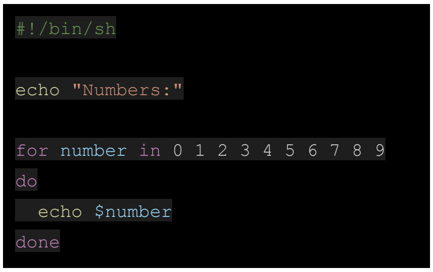
```
#!/bin/bash

number=1

until [[ $number -ge 10  ]]
do
 echo $number
 ((number++))
done
echo "Now, number is $number"
```

Output:

```
$./until.sh
1
2
3
4
5
6
7
8
9
Now, number is 10
```

For loops

```
for item in [list]
do
   commands
done
```



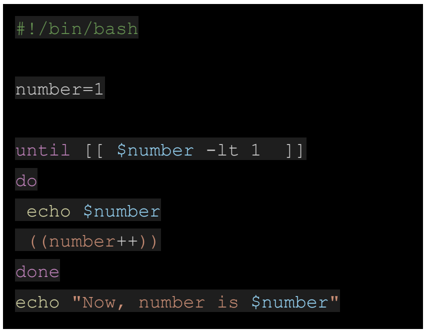
```
#!/bin/sh

echo "Numbers:"

for number in 0 1 2 3 4 5 6 7 8 9
do
  echo $number
done
```

Output:

```
$./for-loop.sh
Numbers:
0
1
2
3
4
5
6
7
8
9
```

Continue and Break Statement

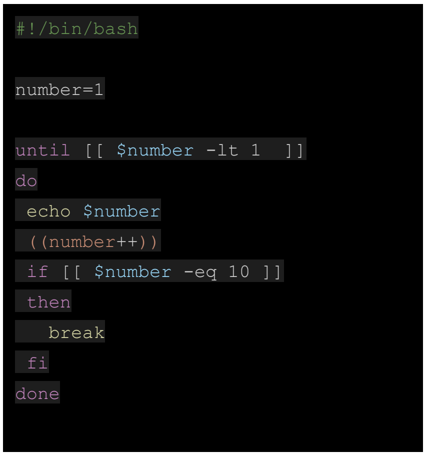
Infinite loop



```
#!/bin/bash

number=1

until [[ $number -lt 1  ]]
do
 echo $number
 ((number++))
done
echo "Now, number is $number"
```

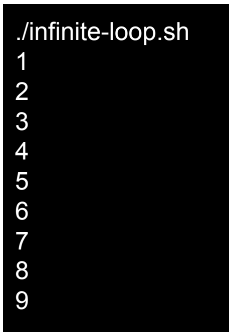
Continue and Break Statement

Break Statement



```
#!/bin/bash

number=1

until [[ $number -lt 1  ]]
do
 echo $number
 ((number++))
 if [[ $number -eq 10 ]]
 then
   break
 fi
done
```

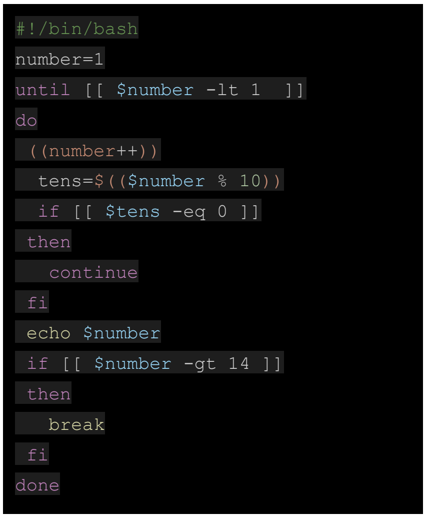
Output:



```
./infinite-loop.sh
1
2
3
4
5
6
7
8
9
```

Continue and Break Statement

Continue Statement



```
#!/bin/bash
number=1
until [[ $number -lt 1  ]]
do
 ((number++))
  tens=$(($number % 10))
  if [[ $tens -eq 0 ]]
 then
   continue
 fi
 echo $number
 if [[ $number -gt 14 ]]
 then
   break
 fi
done
```

Output:

```
$./continue.sh
2
3
4
5
6
7
8
9
11
12
13
14
15
```

Exercise 1

1. Calculate sum of the numbers between 1 to 100.
2. Print result.

Students, write your response!

Exercise 2

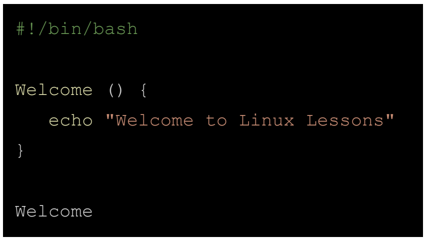
1. Ask user to input multiple names in a single line
2. Print “Hello” message for each name in seperate lines.

Students, write your response!

Pear Deck Interactive Slide
Do not remove this bar

Functions

```
function function_name () {
  commands
}
```



```
#!/bin/bash

Welcome () {
   echo "Welcome to Linux Lessons"
}

Welcome
```

Passing Arguments to Functions

```
#!/bin/bash

Welcome () {
   echo "Welcome to Linux Lessons
$1 $2 $3"
}

Welcome Joe Matt Timothy
```

Output:

```
$./functions.sh
Welcome to Linux Lessons Joe Matt Timothy
```

Nested Functions

```
#!/bin/bash

function_one () {
  echo "This is from the first
function"
  function_two
}

function_two () {
  echo "This is from the second
function"
}

function_one
```

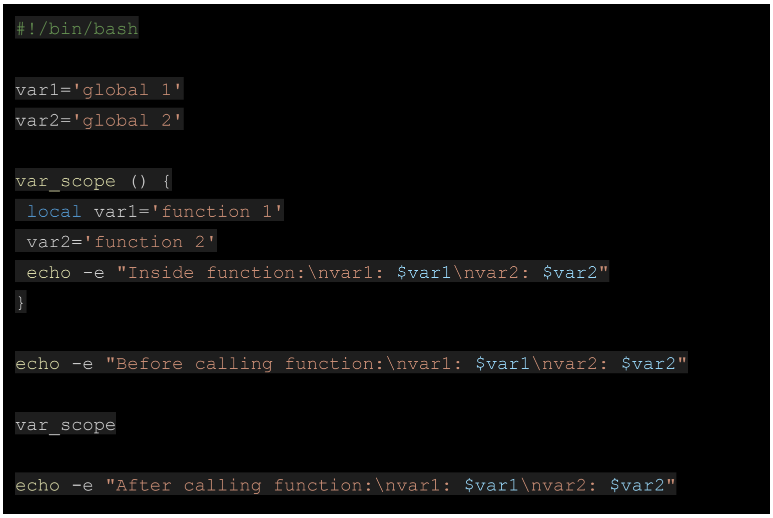
Output:

```
$./nested.function.sh
This is from the first function
This is from the second function
```

Variables Scope

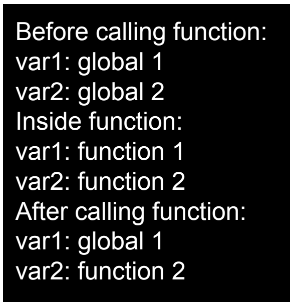
Local variable

local variable_name=value



```
#!/bin/bash

var1='global 1'
var2='global 2'

var_scope () {
 local var1='function 1'
 var2='function 2'
 echo -e "Inside function:\nvar1: $var1\nvar2: $var2"
}

echo -e "Before calling function:\nvar1: $var1\nvar2: $var2"

var_scope

echo -e "After calling function:\nvar1: $var1\nvar2: $var2"
```

Output:

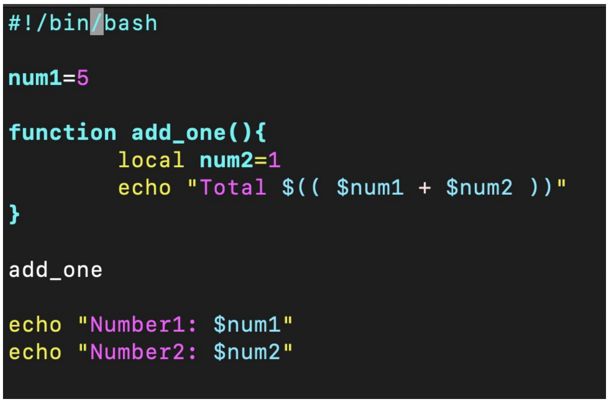


```
Before calling function:
var1: global 1
var2: global 2
Inside function:
var1: function 1
var2: function 2
After calling function:
var1: global 1
var2: function 2
```

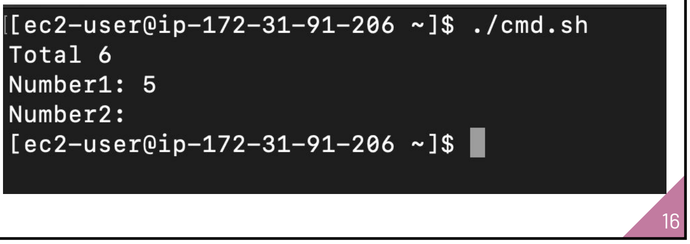
Functions

Local variable

local variable_name=value



```
#!/bin/bash

num1=5

function add_one(){
        local num2=1
        echo "Total $(( $num1 + $num2 ))"
}

add_one

echo "Number1: $num1"
echo "Number2: $num2"
```



```
[ec2-user@ip-172-31-91-206 ~]$ ./cmd.sh
Total 6
Number1: 5
Number2:
[ec2-user@ip-172-31-91-206 ~]$
```

Exercise 3

1. Create a function named **print_age** that accepts one argument

   Ask user to input his/her year of birth and store it to **local** **birth_year** variable

   Calculate **age** using current year value from the first argument

   Print **age** with a message

2. Call **print_age** function with **2021**

Students, write your response!

THANKS!

Any questions?