

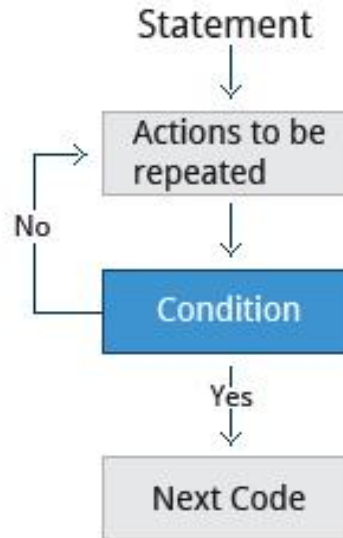
aula 11 - Loops

Laboratório de SO

Loops

Existem 3 tipos de comandos para realizar repetição

- for
- while
- until



for

for variable-name in list

do

execute one iteration for each item

in the list until the list is finished

done

```
File Edit View Search Terminal Help
c7:/tmp>cat testfor.sh
#!/bin/sh

sum=0

for j in 1 2 3 4 5 6 7 8 9 10
do
    sum=$(( $sum + $j ))
done
echo The sum is: $sum
echo The sum of numbers from 1 to n is : 'n*(n+1)/2'
echo Check Value = $(( ($j*($j+1))/2 ))
exit 0

c7:/tmp>./testfor.sh
The sum is: 55
The sum of numbers from 1 to n is : n*(n+1)/2
Check Value = 55
c7:/tmp>
```

for

Ksh For Loop 1 to 100 Numbers

```
#!/bin/ksh
# Tested with ksh version JM 93t+ 2010-03-05
for i in {1..100}
do
    # your-unix-command-here
    echo $i
done
```

for

Script para iterar sob todos os arquivos da pasta atual e enviar informações de acordo com sua extensão.

```
1 #!/bin/bash
2 for filename in $(ls)
3 do
4     # Take extension available in a filename
5     ext=${filename##*\.*}
6     case "$ext" in
7         c) echo "$filename : C source file"
8             ;;
9         o) echo "$filename : Object file"
10            ;;
11        sh) echo "$filename : Shell script"
12            ;;
13        txt) echo "$filename : Text file"
14            ;;
15        *) echo "$filename : Unknown file type/Not processed"
16            ;;
17    esac
18 done
```

while

while condition is true

do

 Commands for execution

done

```
File Edit View Search Terminal Help
c7:/tmp>cat testwhile.sh
#!/bin/sh
n=$1
[ "$n" == "" ] && echo please give a number and try again && exit

factorial=1 ; j=1

while [ $j -le $n ]
do
    factorial=$(( $factorial * $j ))
    j=$((j+1))
done
echo The factorial of $n, "$n"!' = $factorial
exit 0

c7:/tmp>./testwhile.sh 6
The factorial of 6, 6! = 720
c7:/tmp>./testwhile.sh
please give a number and try again
c7:/tmp>./testwhile.sh 20
The factorial of 20, 20! = 2432902008176640000
c7:/tmp>./testwhile.sh 21
The factorial of 21, 21! = -4249290049419214848
c7:/tmp>
```

while

Steps:

1. Display a message, asking for a *filename*
2. Accept the name of a file
3. Redirect the 'stdin' to a file
4. While a line of text exists, do the following
 5. Display the line being read

```
1 #!/bin/bash
2 echo -e "Enter absolute path of the file name you want to read"
3 read file
4 exec <$file # redirects stdin to a file
5 while read line
6 do
7 echo $line
8 done
9
```

exercícios

1-Faça um script para ler e exibir todos os arquivos da pasta ATUAL usando estrutura de repetição.


1.1 - E se fosse na pasta HOME ?

2-Complemente o programa anterior restringindo a exibição apenas de arquivos .c

3-Faça um programa em shell para ler um numero e imprimir o **fatorial** deste numero utilizando a estrutura **while**

exercícios

1-Faça um script para ler e exibir todos os arquivos da pasta home usando estrutura de repetição.



```
1  #!/bin/bash
2
3  for j in $(ls ~)
4  do
5      echo "$j"
6  done
7
8  |
```

until

until condition is false
do

Commands for execution

done

até que condição seja verdadeira

faça

fim

```
File Edit View Search Terminal Help
c7:/tmp>cat testuntil.sh
#!/bin/sh
n=$1
[ "$n" == "" ] && echo please give a number and try again && exit

factorial=1 ; j=1

until [ $j -gt $n ]
do
    factorial=$(( $factorial * $j ))
    j=$((j+1))
done
echo The factorial of $n, "$n"!' = $factorial
exit 0

c7:/tmp>./testuntil.sh 7
The factorial of 7, 7! = 5040
c7:/tmp>./testuntil.sh 20
The factorial of 20, 20! = 2432902008176640000
c7:/tmp>
```

until

Steps:

1. Initialize a variable '*number*' to 0
2. Repeat the following steps until $\text{number} \geq 10$
 1. Display the *number*
 2. Increase the *number* by an unit

```
1 #!/bin/bash
2
3 number=0
4 until [ $number -ge 10 ]; do
5     echo "Number = $number"
6     number=$((number + 1))
7 done
```