IT Scripting and Automation

Loops in Bash Scripting

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Loops

Computers can repeat particular instruction again and again, until particular condition satisfies.

- A group of instruction that is executed repeatedly is called a loop.

- Bash supports:
  - **For** loop
  - **While** loop

- In each and every loop:
  a) First, the variable used in loop condition must be **initialised**, then execution of the loop begins.
  b) A **test (condition)** is made at the beginning of each iteration.
  c) The body of loop ends with a statement that **modifies the value of the test (condition) variable**.

For Loop

Syntax:

for { *variable name* } *in* { *list* }

do

    Execute one for each item in the list

    until the list is not finished

done

---

for ((expr1; expr2; expr3))

do

Repeat all statements between <u>do</u> and <u>done</u> while expr2 is TRUE

done

For Loop Example

```bash
#!/bin/bash
# Script to test For loop in Bash
for x in 1 2 3
do
        echo "Welcome $x times "
done
```

For Loop Example

#!/bin/bash

Script to test For loop in Bash

for COLOUR **in** red green yellow

do

echo "Colour is $COLOUR "

done

- Output:

```
COLOUR: red
COLOUR: green
COLOUR: yellow
```

For Loop Example

```bash
#!/bin/bash
# Script to test For loop in Bash
COLOURS="red blue yellow"
for COLOUR in $COLOURS
do
        echo "Colour is $COLOUR "
done
```

For Loop Example

```
#!/bin/bash
# Script to test For loop
for (( i=0; i<= 5; i++ ))
do
    echo "Welcome $i times "
done
```

- Please Note the white spaces ' '

While Loop

While Loop Syntax:

    while [condition]

    do

        command1

        command2

        ….

    done

While Loop Example

```bash
#!/bin/bash
# Script to test While loop
i=1
while [ $i -le 5 ]
do
    echo "Welcome $i times "
    ((i++))
done
```

Sample- Loops

What does the next script do?

```bash
#!/bin/bash
FILES="$@"
for f in $FILES
do
    if [ -f ${f}.bak ]
    then
        echo "Backup exists: $f file"
    else
    cp $f $f.bak
    fi
done
```

Exercise - For Loop

- Write a bash script to read the filenames in the current working directory ending with jpg

- Create a directory in /tmp called bckup

- Attach at the beginning of every filename your name, i.e., JohnSmith-DCS01.jpg

- Finally, move all the files ending with jpg to the new directory /tmp/bckup

- You may need to create few .jpg files to test your script