LOOPS IN SHELL SCRIPTS

Bash supports:
- while loop
- for loop

a) while loop

The while loop will repeat a chunk of code as long as the given condition is true.

Syntax:

while [condition]
do
      command1
      command2
      command3
      …
      ....
done

Example 1:

```
i = 1
while [ $i  -le  10 ]
do
    echo " value of i is  $i "
    i = ` expr $i  +  1 `
done
```

b) for loop

Syntax 1 :

for { variable name } in { list }
do
      execute one for each item in the list until the list is not finished
      (And repeat all statement between do and done)
done

Example 1:

```
for  i  in 1  2  3  4  5
do
        echo "Welcome $i times"
done
```

Example 2:

```
count = 0
for  i  in  2  4  6
do
      echo " i is $i "
      count = `expr  $count + 1`
done
echo " the loop was executed $count times"
```

Discussion :

This for loop will be executed for three times, once with i=2, once with i=4 and once with i=6.

Syntax # 2:

```
for (( expr1; expr2; expr3 ))
do
        .....
        ...
        repeat all statements between do and
        done until expr2 is TRUE
done
```

Example 1:

```
for (( i = 0 ; i <= 4; i++ ))
do
        echo "Welcome $i times"
done
```

Output :

```
        Welcome 0 times
        Welcome 1 times
        Welcome 2 times
        Welcome 3 times
        Welcome 4 times
```

Nesting of for loop

Example:

```
for (( i = 1; i <= 5; i++ ))              ### Outer for loop ###
do
        for (( j = 1 ; j <= 5; j++ ))     ### Inner for loop ###
        do
                echo -n "$i "
        done
        echo ""                           #### print the new line ###
done
```

Output:
```
1 1 1 1 1
2 2 2 2 2
3 3 3 3 3
4 4 4 4 4
5 5 5 5 5
```