

Task 6 - Loops in Shell Scripting

If Condition

Syntax:

```
if [ condition ]  
then  
    # Commands to be executed if condition is true  
    echo "Condition is true"  
fi
```

Example:

```
#!/bin/bash  
  
a=10  
b=20  
echo "First number: $a"  
echo "Second Number: $b"  
if [ "$a" -lt "$b" ]; then  
    echo "$a is less than $b"  
fi
```

```
root@ip-172-31-34-16:/home/ubuntu/Loops# vi if.sh  
root@ip-172-31-34-16:/home/ubuntu/Loops# ./if.sh  
First number: 10  
Second Number: 20  
10 is less than 20  
root@ip-172-31-34-16:/home/ubuntu/Loops#
```

If...else

Syntax:

```
if [ condition ]  
then  
    # Commands to be executed if condition is true  
    echo "Condition is true"  
else  
    # Commands to be executed if condition is false  
    echo "Condition is false"  
fi
```

Example:

```
#!/bin/bash  
  
a=18  
b=20  
echo "First number: $a"  
echo "Second Number: $b"  
if [ "$a" -lt "$b" ]; then  
    echo "$a is less than $b"  
else  
    echo "$b is greater than $a"  
fi
```

```
root@ip-172-31-34-16:/home/ubuntu/Loops# vi if.sh  
root@ip-172-31-34-16:/home/ubuntu/Loops# ./if.sh  
First number: 18  
Second Number: 20  
18 is less than 20  
root@ip-172-31-34-16:/home/ubuntu/Loops#
```

If..else..if

Syntax:

```
if [ condition1 ]  
then  
    # Commands to be executed if condition1 is true  
    echo "Condition1 is true"  
elif [ condition2 ]  
then  
    # Commands to be executed if condition2 is true  
    echo "Condition2 is true"  
else  
    # Commands to be executed if neither condition1 nor condition2 is true  
    echo "Neither condition1 nor condition2 is true"  
fi
```

Example:

```
#!/bin/bash  
  
a=10  
b=10  
echo "Value 1: $a"  
echo "Value 1: $b"  
if [ "$a" -lt "$b" ];then  
    echo "$a is less than $b"  
elif [ "$a" -gt "$b" ]; then  
    echo "$a is greater than $b"  
else  
    echo "Both values are equal"  
fi
```

```
root@ip-172-31-34-16:/home/ubuntu/Loops# chmod +x elif.sh
root@ip-172-31-34-16:/home/ubuntu/Loops# ./elif.sh
Value 1: 10
Value 1: 10
Both values are equal
root@ip-172-31-34-16:/home/ubuntu/Loops#
```

For Loop

Syntax:

```
for var in value1 value2 value3
do
    # Commands to be executed
    echo $var
done
```

Example:

```
#!/bin/bash

for i in {1..10}
do
    if (( $i % 2 == 0 ))
    then
        echo "$i is even"
    else
        echo "$i is odd"
    fi
done
```

```
root@ip-172-31-34-16:/home/ubuntu/Loops# vi for.sh
root@ip-172-31-34-16:/home/ubuntu/Loops# chmod +x for.sh
root@ip-172-31-34-16:/home/ubuntu/Loops# ./for.sh
1 is odd
2 is even
3 is odd
4 is even
5 is odd
6 is even
7 is odd
8 is even
9 is odd
10 is even
root@ip-172-31-34-16:/home/ubuntu/Loops#
```

While Loop

Syntax:

```
# Basic while loop
while [ condition ]
do
    # Commands to be executed
    echo "Looping..."
done
```

Example:

```
#!/bin/bash

count=1

while [ $count -le 10 ]
do
    if (( $count % 2 == 0 ))
    then
        echo "$count is even"
    else
        echo "$count is odd"
    fi

    ((count++))
done
```

```
root@ip-172-31-34-16:/home/ubuntu/Loops# vi while.sh
root@ip-172-31-34-16:/home/ubuntu/Loops# chmod +x while.sh
root@ip-172-31-34-16:/home/ubuntu/Loops# ./while.sh
1 is odd
2 is even
3 is odd
4 is even
5 is odd
6 is even
7 is odd
8 is even
9 is odd
10 is even
root@ip-172-31-34-16:/home/ubuntu/Loops#
```