

for,while loop

For loop

Loop is used to execute a block of code multiple times.

We use for loop to iterate through a list of items.

for syntax

```
for variable in items
do
    # code for each item
done
```

Examples

```
#!/bin/bash
```

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

Brace expansion

`{1..5}` will give 1 2 3 4 5

`{a..f}` will give a b c d e f

`{Z..T}` will give Z Y X W V U T

`{-5..5}` will give -5 -4 -3 -2 -1 0 1 2 3 4 5

`{A,B,C,D}` will give A B C D

`{A,B,C{1..3},D}` will give A B C1 C2 C3 D

```
#!/bin/bash
```

```
for i in {1..10}
```

```
do
```

```
    echo $i
```

```
done
```

To list all the files in the current directory

```
#!/bin/bash
```

```
for f in *  
do  
    echo $f  
done
```

seq command

We use the `seq` command to generate numeric sequence.

```
seq 5
```

```
seq 3 10
```

```
seq 1 2 10
```

```
#!/bin/bash
```

```
for i in $(seq 1 2 10)
```

```
do
```

```
    echo $i
```

```
done
```


For loop like C programming

```
#!/bin/bash
```

```
for( ( i = 1; i <= 5; i++ ) )  
do  
    echo $i  
done
```

Nested for loop

```
for var_outer in list_outer
do

    # outer for loop body

    for var_inner in list_inner
    do
        # inner for loop body
    done

done
```

Write a Shell Script to print the following pattern

1

1 2

1 2 3

1 2 3 4

While Loop

The while loop is similar to a for loop and help in executing a block of code multiple times as long as some given condition is satisfied.

```
while [ condition ]  
do  
    # body of while loop  
done
```

```
#!/bin/bash
```

```
# initialise i
```

```
i=1
```

```
while [ $i -le 5 ]
```

```
do
```

```
    # echo i
```

```
    echo $i
```

```
    # update i
```

```
    i=`expr $i + 1`
```

```
done
```