

Bash Practice Questions for Chapter 8: Loops

These simple exercises will help you practice what you learned in the [eighth chapter](#) of the [Bash Beginner Series on Linux Handbook](#).

Exercise 1: Looped message

Create a for loop to display a message 10 times on Bash. Execute it as a Bash script.

Difficulty level: Easy

Hint: Use `echo` to print the message within the `for` loop.

Exercise 2: List directory contents with a for loop

Output all the files and directory that exists under the `/var` directory.

Difficulty level: Intermediate

Hint: Use `/var/*` as the range of the `for` loop to increment through.

Exercise 3: Multiples of three with a while loop

Use a while loop that will print the first ten multiples of the number three.

Difficulty level: Easy

Hint: First initialize a variable to `1`; then, the while loop will run as long as it is less than or equal to `10`. Inside the body of the while loop, [echo command can print](#) the value of the variable multiplied by `three` and then it increments it by `1`.

Exercise 4: Multiples of three with an until loop

Use an until loop that will print the first ten multiples of the number three.

Difficulty level: Easy

Hint: An until loop will keep running as long as the test condition is false, just opposite to a for loop. Negation of the test condition `[$num -le 10]` (as used in for loops); is `[$num -gt 10]`.

Exercise 5: Array iteration with loops

Create an array that stores the first ten prime numbers. Iterate over the array and print out each element inside it.

Difficulty level: Intermediate

Hint: If you call the array as `prime`, `${prime[@]}` can be used to find out the size of the prime array. Please refer to [bash series chapter #4](#).

Solutions to the Exercises

Solution 1: Looped message

Create a for loop to display a message 10 times on Bash. Execute it as a Bash script.

```
for ((i = 0 ; i < 10 ; i++)); do
    echo "Hello World!"
done
```

Solution 2: List directory contents with a for loop

Output all the files and directory that exists under the /var directory.

```
#!/bin/bash

for i in /var/*; do
    echo $i
done
```

Solution 3: Multiples of three with a while loop

Use a while loop that will print the first ten multiples of the number three.

```
#!/bin/bash

num=1
while [ $num -le 10 ]; do
    echo $(( $num * 3 ))
    num=$(( $num + 1 ))
done
```

Solution 4: Multiples of three with an until loop

Use an until loop that will print the first ten multiples of the number three.

```
#!/bin/bash

num=1
until [ $num -gt 10 ]; do
    echo $(( $num * 3 ))
    num=$(( $num + 1 ))
done
```

Solution 5: Array iteration with loops

Create an array that stores the first ten prime numbers. Iterate over the array and print out each element inside it.

```
#!/bin/bash

prime=(2 3 5 7 11 13 17 19 23 29)
for i in "${prime[@]}"; do
    echo $i
done
```