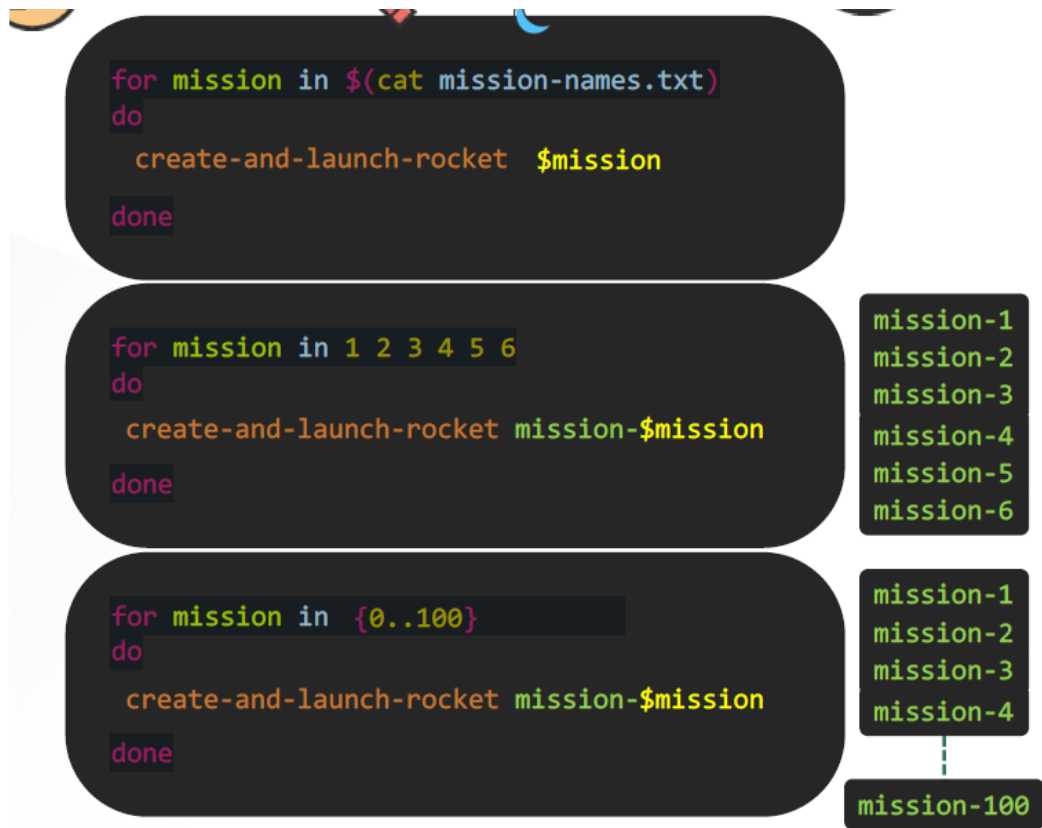# Loops

Type of Loops

- `for` loops is used when you want to run same command multiple times

- Execute a command or a set of commands many times

- Iterate through files

- Iterate through lines within a file

- Iterate through the output of a command

- `for` loops can be written in multiple ways:

```
for mission in <list of missions>
do
   create-and-launch-rocket $mission
done
```

```
for mission in 1 2 3 4 5 6
do
   create-and-launch-rocket $mission
done
```

```
for mission in {0..100}
do
  create-and-launch-rocket $mission
done
```

```
for mission in $(cat mission-names.txt)
do
  create-and-launch-rocket  $mission
done
```

```
for mission in 1 2 3 4 5 6
do
  create-and-launch-rocket mission-$mission
done
```

mission-1
mission-2
mission-3
mission-4
mission-5
mission-6

```
for mission in  {0..100}
do
  create-and-launch-rocket mission-$mission
done
```

mission-1
mission-2
mission-3
mission-4

mission-100

- Real life use case can be:

- Iterate thorugh list of files from the output of the `ls` command

- Iterate thorugh list of packages store them in a file and installs them one by one.

- `ssh` to the list of servers and check there `uptime` .

```
for file in $(ls)
do
 echo Line count of $file is $(cat $file | wc -l)
done
```

```
for server in $(cat servers.txt)
do
 ssh $server "uptime"
done
```

```
for package in $(cat install-packages.txt)
do
 sudo apt-get -y install $package
done
```

Real life use cases:

```
for file in $(ls)
do
 echo Line count of $file is $(cat $file | wc -l)
done
```

```
for server in $(cat servers.txt)
do
 ssh $server "uptime"
done
```

```
for package in $(cat install-packages.txt)
do
 sudo apt-get -y install $package
done
```