

LIS-5364

Bash v. Everything Else

Data “Types”: Bash

Bash basically only has two scalar/singulars:

“Text”

and

“Integers”

For multiples: Files and “delimited text”

(bash does have arrays)

Data “Types”: Other Languages

Lots of variety, that we will discuss:

Scalar/Singular: Booleans, Strings, Integers, floats

Multiple: Arrays, Lists, Tuples, Dictionaries

“Special” - Objects, etc.

“Multiple” data types (holders/containers/lists)

Indexed list of things.

Color[0] = “red”

Color[1] = “orange”

etc.

Usually – ALL THE SAME DATA TYPE.

Some languages have different types of arrays. With funny names like “tuples.” or ones that kind of make sense (“dictionaries”)

Functions (w/no parameters)

```
function_name () {  
    echo "Do stuff"  
}
```

Functions: Bash

```
function_name () {  
    echo "$1 is first"  
    echo "$@" is all"  
}
```

(parameters just go in order, like this)

Functions: Other languages

Functional languages: very similar

(function y x)

Others: named parameters:

```
function($inputstring) {  
    echo "this is the $inputstring"  
}
```

“Hello Worlds”

Way to get a tiny flavor of a language.

Variables

Indicator/Identifier of an instance of a data type.

```
greeting = "Hey everybody"
```

```
cost = "19.99"
```

```
numberarray = [0,4,23,29]
```

Loops/Conditionals

So, GOTO is bad; because if something goes wrong, there might not be a way to tell how you got there.

```
10
```

```
20 If explosion, then GOTO 50
```

```
30 do stuff
```

```
40 do some more stuff
```

```
50 Here we are? But how did we get here?
```

Loops

So whenever there is some sort of repetition or decision, put it in a loop, of some kind.

If house is on fire

 get water

Else

 chill out

do next thing

Loops

These tend to be pretty good english words +
the condition you test for +
what to do

While

Do

If

Unless

For

“For” is the only one that's a little weird: but it's most often used as a count

For 1 to 100

Count

Recursion instead of loops:

(Defun infinite_loop
 (do thing
 infinite_loop))

Files: Other Languages

Tend to be very careful about this:

“fopen” et al.

Many apps eschew file-writing for storage and instead use MySQL or other databases.

Files: Bash

BASH DONT CARE.

BASH WILL WRITE ALL OVER YOUR FILES.

This is cool because you can use tmp files as storage/data. Slow, but cool.

Files: Bash

BASH DONT CARE.

BASH WILL WRITE ALL OVER YOUR FILES.

Watch out for:

```
echo "what file to delete?"
```

```
read $file
```

```
rm -rf /$file
```

IPs and Hostnames

IP address – unique 4 digit number over the internet; but..

Subnets/Intranets (like the one you have at home with your wireless router) have special numbers:

127.0.0.1 – home

192.168.*.* – local

10.*.*.* – local

Also, for local – hostnames – less reliable, but useful if you do them right, once, and your network is closed.

less /etc/hostname