

Basic Types

elixir supports types like

- integer's
- float's
- atoms
- booleans
- strings

Integers

- integers in elixir can be represented as 1 elixir can even be entered as binary, octal or hexadecimal numbers

```
iex> 0b11
```

```
3
```

```
iex> 0o12
```

```
10
```

```
iex> 0x1a
```

```
26
```

Floats

- floats in elixir are represented 5.0 instead of 5
- operators such as / always returns a float.
- if you want integer division and remainder you can use div and rem functions

```
iex> 3/5
```

```
0.6
```

```
iex> div(3,5)
```

```
0
```

```
iex> rem(3,5)
```

```
3
```

Atoms

atoms are constants in elixir whose values are their own name they are denoted with the `:` Character.

atoms are most commonly used to display the state of an operation with atoms such as `:ok` and `:error`

Two atoms are equal if their names are equal

```
iex> a = :elixir
:elixir
iex> b = :phoenix
:phoenix
iex> a == b
false
iex> a == :elixir
true
```

Booleans

- Elixir has three Boolean operators `or` `and` `not` they expect an argument to evaluate.
- The keywords `true`, `false` are actually atoms in elixir

```
iex> true == :true  
true
```

```
iex> true or false  
true
```

```
iex> true and false  
false
```

```
iex> true and not false  
true
```

Boolean Comparison operators

- Elixir has the and, or and not operators as well as &&, || and ! operators
- Elixir also comes with comparison operators like ==, != <, >, <=, >=

```
iex> "hi" == "hi"
```

```
true
```

```
iex> 21 != 132
```

```
true
```

```
iex> 10 == 3
```

```
false
```

Strings

- Strings in elixir are a sequence of characters that are written in double quotes
- In Elixir strings are linked lists of characters
- Elixir supports things like string interpolation which allow you to insert a value into the middle of a string using `#{}` and string concatenation using `<>`

```
iex> hi = "Hello "
```

```
"Hello "
```

```
iex> elixir = "World!"
```

```
"World!"
```

```
iex> hi <> elixir
```

```
"Hello World!"
```

```
iex> "#{hi}User!"
```

```
"Hello User!"
```