

# START - PROGRAMMING LANGUAGE FOR BEGINNERS

## CHEAT SHEET

### Variable Assignment

- Integer: a is 10
- Float: a is 3.25
- Strings: a is "Hello"
- Booleans: a is true
- Lists: a is [1, "hello", 3.5, false]
- Null Value: a is null

### Operators

#### Numerical Operators

- 2 add 3 = 5
- 5 mod 2 = 1
- 5 sub 2 = 3
- 2 pow 3 = 8
- 4 mult 6 = 24
- 15 div 3 = 5

#### Comparison Operators

- a equals b
- a not equals b
- a greater than b
- a less than b
- a greater than or equal to b
- a less than or equal to b

#### Boolean Operators

- a and b
- a or b
- not a

### Write

#### Writing to command line:

- write ("Hello World!")

#### Writing with a newline character:

- write ("Hello World!") nl

#### Writing with variables:

- write("Hello my name is ", name)
- write(a)
- write(a, b, c, d)

### Operator Alternatives

add : +  
sub : -  
mult : \*  
div : /  
mod : %  
pow : ^  
equals : ==  
not equals : !=  
greater than : >  
less than : <  
greater or equal to: >=  
less than or equal to : <=

### List Operations

- a is list[i]: stores the ith element of the list in variable a
- list[i] is a: Overrides the element at the ith position in the list with a
- remove a from list: removes the first instance of a from the list
- remove all a from list: removes all instances of a from the list
- list add a: adds a onto the end of the list
- list concat other\_list: creates a new list by joining the two lists
- length of list: returns the length of the list as an integer.

function greeting{  
write("Hello World!") nl  
}

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## Functions

```
function new_func(a, b){  
    write(a add b)  
}  
new_func(1, 3)
```

Rerurning from a function:

```
function new_func(a, b){  
    return a add b  
}  
  
a is new_func(1, 2)
```

## If-Otherwise Statements

```
if a equals 10{  
    write("a is 10") nl  
}  
otherwise if a equals 15{  
    write("a is 15") nl  
}  
otherwise{  
    write(" a is neither 10 nor 15") nl  
}
```

## Comments

```
// single line comment //  
  
a is 10 // in-line comment //  
  
//  
Multi  
Line  
Comment  
//
```

## Loops

While Loops:

```
i is 0  
loop while i less than 10{  
    write(i) nl  
    i is i + 1  
}
```

For Loops:

```
arr is [1, 2, 3]  
loop for each item in arr{  
    write(item) nl  
}
```

## Miscellaneous

Other Features:

- Write newline: nl
- Remember! - functions which do not have a specified return value, return null by default.

a is 3  
b is 7  
write(a add b)