

Functions

What's a function's function?

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The 4 Types

- Sequential
- Conditional
- Repetitive
- Reusable



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- Sequential - Expressions
- Conditional
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- Conditional - If statements, ternaries
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Functions

- Why do we need them?
- DRY - Don't Repeat Yourself!
- They allow us to have code that is written once, but able to be used again and again by the machine.
- Organizes Code



Functions

- Functions store stuff
 - Variables - store values
 - Functions - store blocks of code



Like a Factory

- Ways to think about functions:
 - Like modular factories.
 - Stuff can go in, stuff can come out.



Like a Recipe

- Ways to think about functions:
 - References to another recipe you might use many times.
 - Instead of printing the same recipe in many pages of a recipe book, why not put a reference to the recipe. (Ex: Check out the frosting recipe on page 250)



Reusing Code

- In Games:
 - Functions allow you to have the code in one place and run that code as many times as you want.
 - Code for shooting - used again and again



A Basic Function

Structure and Use

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Basic Structure

```
function functionName() {  
    //code the function runs  
}
```



Basic Structure

```
function functionName () {  
    //code the function runs  
}
```

- Functions have **names** so we can refer to them later.



Basic Structure

```
function functionName() {  
    //code the function runs  
}
```

- Parenthesis are for parameters



Basic Structure

```
function functionName() {  
    //code the function runs  
}
```

- Curly braces are for **blocks of code**



Watch Out

- MUST have the parenthesis if you want the function to be executed.
 - WRONG: `var myVar = myFunction;`
 - RIGHT: `var myVar= myFunction();`
- Without the parenthesis, you are assigning a reference to that function, as opposed to a reference to its result. As in:
 - `var myNewFn= myFunction;`
`myNewFn();`