JULIA PROGRAMMING

Functions

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Functions


```
function <fName> (<arguments>)
    <functionBody>
end
```

```
function f(x)
    3x^2 + 4x - 5
end
```

```
fName(<arguments>) = <functionBody>
```

```
f(x) = 3x^2 + 4x - 5
```

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Defining Functions

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Map, Reduce, Filter

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Variable Number of Arguments

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Optional Arguments

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Keyword Arguments

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Composite Functions

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Composite Functions

$g(x) = y_1$ $\qquad$ $f(x) = y_2$

$f(g(x)) = y_3$ $\qquad$ $f \circ g(x) = y_3$

$f(x) = x^2$ $\qquad$ $g(x) = 5x$

$f \circ g(x) = f\big(g(x)\big) = (5x)^2 = 25x^2$

$f(x) = 2x$ $\qquad$ $g(x) = x^2$ $\qquad$ $h(x) = x - 5$

$f(g(h(x))) = f \circ g \circ h(x) = 2(x-5)^2$

Pipeline Operator

$$f(g(h(x))) = f\big(g(x-5)\big) = f\big((x-5)^2\big) = 2(x-5)^2$$

$f(x)$ $\quad x \mid > f(\quad)$

$f(g(x))$ $\quad x \mid > g(\quad) \mid > f(\quad)$

$f(g(h(x)))$ $\quad x \mid > h(\quad) \mid > g(\quad) \mid > f(\quad)$

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Mutating Functions

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