Vectorized Operations

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Basically doing operations in parallel

Vectors

```
x <- 1:4 ; y <- 6:9
x + y
```

```
## [1]  7  9 11 13
```

```
x > 2
```

```
## [1] FALSE FALSE  TRUE  TRUE
```

```
y == 8
```

```
## [1] FALSE FALSE  TRUE FALSE
```

```
x * y
```

```
## [1]  6 14 24 36
```

```
x / y
```

```
## [1] 0.1666667 0.2857143 0.3750000 0.4444444
```

This does elementwise operations

Matrices

```
x <- matrix(1:4,2,2) ; y <- matrix(rep(10,4),2,2) # y is 2x2 with all values as 10
x * y      # Elementwise multiplication
```

```
##      [,1] [,2]
## [1,]   10   30
## [2,]   20   40
```

```r
x / y
```

```
##      [,1] [,2]
## [1,]  0.1  0.3
## [2,]  0.2  0.4
```

```r
x %*% y    # True multiplication
```

```
##      [,1] [,2]
## [1,]   40   40
## [2,]   60   60
```