

## 10,000 Returns Calculated Instantly

### Loop vs Vectorization

#### Loop Approach

```
x[0] * 2 = y[0]  
x[1] * 2 = y[1]  
x[2] * 2 = y[2]  
x[3] * 2 = y[3]  
x[4] * 2 = y[4]
```

Sequential  
(one at a time)

#### Vectorized

```
[0,1,2,3,4] * 2 = [0,2,4,6,8]
```

Parallel  
(all at once)

