

# More on Functions - Part 2

September 26, 2021

## 0.0.1 More on Functions

### Functions with multiple arguments

```
[1]: def addtwo(x, y):  
      return(x + y)
```

```
[2]: addtwo(12, 13)
```

```
[2]: 25
```

```
[3]: addtwo(12)
```

```
↳ -----  
Traceback (most recent call↳  
↳last)  
  
  TypeError
```

```
<ipython-input-3-b265bcf5143c> in <module>  
----> 1 addtwo(12)
```

```
TypeError: addtwo() missing 1 required positional argument: 'y'
```

## 0.0.2 Defining function for binomial distribution

$$P(X = x) = {}^nC_x p^x (1 - p)^{n-x}$$

```
[11]: #P(X = x) = nCx p^x (1-p)^(n-x)  
      # n! / (x! * (n - x)!)  
      import math  
  
      def pbin(x, n, p):  
          ncx = math.factorial(n) / (math.factorial(x) * math.factorial(n - x))  
          prob = ncx * (p**x) * ((1-p)**(n - x))
```

```
return(prob)
```

### Defining arguments with name

```
[13]: pbin(x = 4, n = 7, p = 0.5)
```

```
[13]: 0.2734375
```

If arguments are given in the same order then not required to write variables' name. See example:

```
[12]: pbin(4, 7, 0.5)
```

```
[12]: 0.2734375
```

Arguments are not required to be in the same order if given by name. See example:

```
[14]: pbin(n = 7, x = 4, p = 0.5)
```

```
[14]: 0.2734375
```