Lecture 3: Coin Toss Simulation 2

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Today's Topics

Lab Exercise

- Function
- Coin Toss Part 2

Python basics – function

```
def myfunc(a, b):
    return a+b


x = myfunc(2,3)
print(x)
```

From last lecture...

```
import numpy as np
import matplotlib.pyplot as plt

r = np.random.rand(1000,1)
toss = []
for i in range(1000):
    if r[i] < 0.5:
        toss.append('H')
    else:
        toss.append('T')

plt.hist(toss)
```

Coin toss simulator - Part 2

- Create **toss_fair_coin(times)** function
  - Returns [‘H’, ‘T’, ‘T’, …]
- Create **plot_head_fraction(tosses)** function
  - Returns the fraction of ‘H’ so far
  - E.g. [0.0, 0.5, 0.66, …]
- Plot fraction of ‘H’ vs number of tosses
  - plt.plot(x, y)
  - Where x = [0,1,2,3,…] and y = [0.0, 0.5, 0.66, …]