



Python Quick Tips
Putting it all together!



Python Quick Tips #10

Putting it all together!

Progress



We've learnt a lot of
separate techniques

Progress



Time to apply many of
them in **context**

The Goal

```
save.py ×
1 #Import Numpy package
2 import numpy as np
3
4 #define rolling function
5 def rolltest(s, n):
6     np.random.seed(s)
7     taken_rolls = 0
8     val_rolls = []
9     while taken_rolls < n:
10         result = np.random.randint(1,7)
11         val_rolls.append(result)
12         if result != 1:
13             taken_rolls += 1
14         else:
15             taken_rolls = 0
16     total = sum(val_rolls)
17     return [total, val_rolls]
18
19 #set the test variables
20 num_rolls = 10
21 times = 100
22 num_tests = range(0,times)
23 total_s, total_r = [], []
24
25 for t in num_tests:
26     outcome = rolltest(t, num_rolls)
27     total = outcome[0]
28     rolls = len(outcome[1])
29     total_s.append(total)
30     total_r.append(rolls)
31
32 #print the results
33 print(sum(total_s)/len(total_s))
34 print(sum(total_r)/len(total_r))
```

Shell ×

```
>>> %Run save.py
```

```
112.21
32.35
```

```
>>> |
```

Hypothetical Scenario



Roll **10** dice (**6** sided)
Add the results together

Task 1



Random numbers
For loop

Task 2



Random numbers
While loop

Hypothetical Scenario



Each time we roll a **1**
We **start again** (but keep
our rolls so far)

Task 3



Adding an **if** statement

Hypothetical Scenario



What is my **probable** score
and number of rolls?

Task 4



Creating a **function**

Task 5



Running **multiple tests**

We did it!

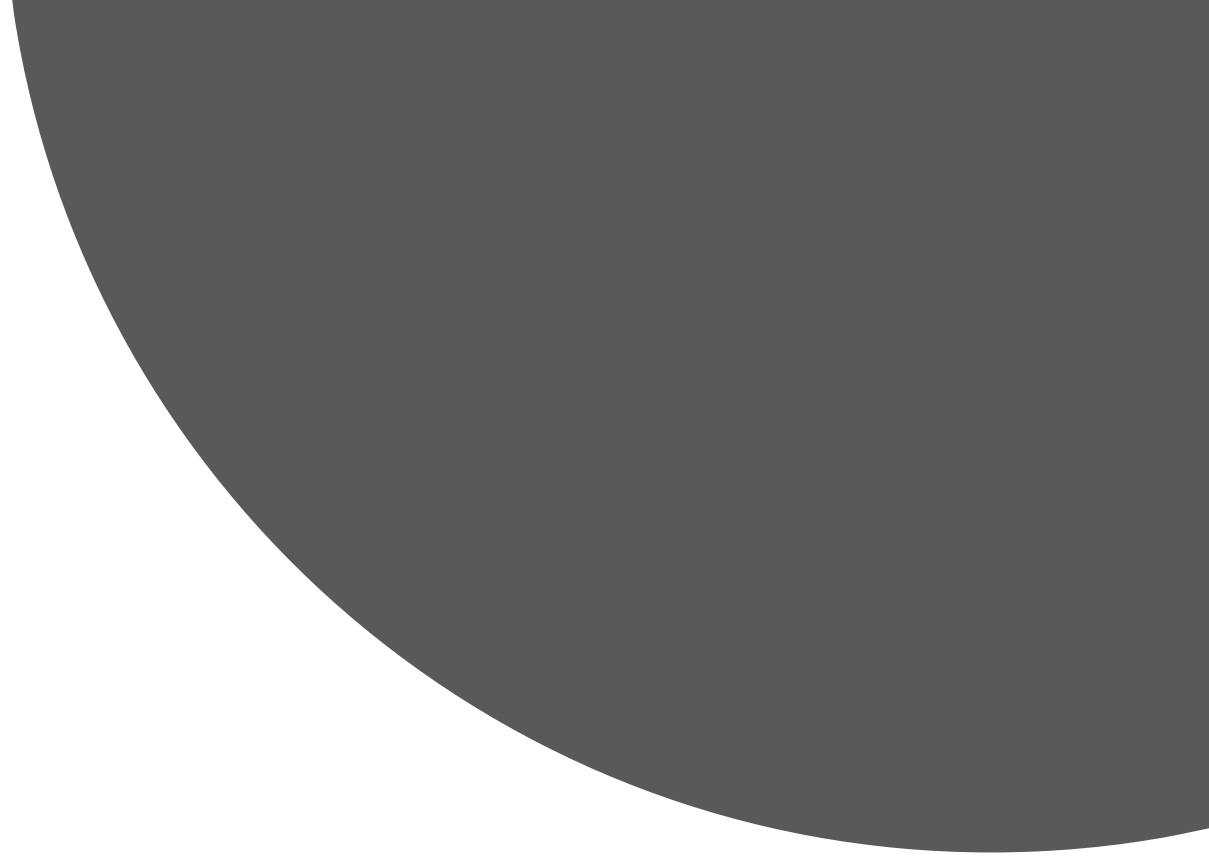


Gamble with confidence!
(just kidding – don't....)



Guide on github

<https://github.com/aussieBIMguru>



From here
Choose your pathway!



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