Python Coding Dojo

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What are Katas?

- Coined from the japanese training style of the same name, a code kata is a programming exercise that helps to develop our coding skills through practice and repitition in a safe(ish) environment.
- Our coding problems will be located in our `bitbucket` repo. Before working on the files, make a copy of the skeletal solution in the form `KataName_YourName.py`. For example, my copy of `Fizzbuzz.py` will be `Fizzbuzz_Wole.py`.

Exercise One: Fizz Buzz

- Stage One:
  - Write a program that prints the numbers from 1 to 100. But for multiples of three print "`Fizz`" instead of the number and for the multiples of five print "`Buzz`". For numbers which are multiples of both three and five print "`FizzBuzz`"
- Stage Two:
  - A number is fizz if it is divisible by 3 or if it has a 3 in it
  - A number is buzz if it is divisible by 5 or if it has a 5 in it

Exercise Two: Prime Factors

- Stage One:
  - Factorize a positive integer number into its prime factors e.g.

```
2  : [2]
4  : [2, 2]
9  : [3, 3]
20 : [2, 2, 5]
```

- Stage Two:
  - Return the prime factors without repetition e.g.

```
20 : [2, 5]
32 : [2]
40 : [2, 5]
```

Exercise Three: Roman Numerals

- Stage One:
  - The Romans wrote numbers using letters - I, V, X, L, C, D, M. (notice these letters have lots of straight lines and are hence easy to hack into stone tablets). The Kata says you should write a function to convert from normal numbers to Roman Numerals: e.g.

    ```
    1  --> I
    10  --> X
    7  --> VII
    ```

    etc. There is no need to be able to convert numbers larger than about 3000.
- Stage Two:
  - Write a function to convert in the other direction, i.e. roman numeral to digits

Remember...

- Test first
- Think in an Object Oriented Way