

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 repetition 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