Homework 2: Python Basics

1. **Write a python program called `print_triples.py`**. Print out all the numbers from 0 to 100 and print a * next to the numbers which are perfectly divisible by 3.

- Do this by making a loop which counts up from 0..100
- Check the number to see if it is divisible perfectly by 3 (no remainder)
- Print a `*` next to the number if that is the case

Output should look some like `0`

```
1
2
3 *
4
5
6 *
```

2. **Write a replacement for the unix tool word count: `wc`.** The program should print out the number of lines in an input file - store your code in the script `wc.py`.

- *Bonus for the more advanced* - also print out the number words and characters found in the file.

3. **Read in the codon table file and print some specific patterns.** The file is `codon_table_compact.txt` and is provided in the homework template you will get when you clone the repository. It is also available codon_table_compact.txt. This file has 3 columns which list the 3 letter codon, the amino acid abbreviation, and the full amino acid name. Your program will be written in the script `codon_table_count.py`

- For each amino acid, print out the number of codons which code for it
- Print out the total number of amino acids and codons seen.
- Print out the number of Amino acids which are four-fold degerate (are encoded by 4 or more codons). Also print out these amino acids at the end.

The report can look something like: `Amino acid X is encoded by Y codons`

```
...
...
===
There are X total amino acids and X codons
There are X AAs which are four-fold or six-fold degenerate
These AAs are:
  X
  Y
  Z
```