BEGINNERS' PYTHON - IMPORTS

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4TH YEAR MATHEMATICS

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THE STANDARD LIBRARY

Modules in the standard library are written in C, so will likely run quicker than if you wrote your own equivalent functions.

- `time` – for getting the current time and manipulating times
- `math` – standard maths constants and functions e.g. `pi`, `sin`, `sqrt`
- `random` – for generating random numbers, shuffling lists etc.
- `re` – 'regular expression', match patterns in strings e.g. `".*@gmail.com"`
- `tkinter` – GUI library, can be used to make games
- `os` – 'operating system' e.g. get path to current folder

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IMPORTING MODULES

```
import [module]

import [module] as [name]

from [module] import [object]

from [module] import *
```

```
import math
import time as tm
from math import sqrt
from math import pi as PI


math.sin(0.1)
tm.time()
sqrt(2)
x = PI**2 / 2
```

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IMPORTING SCRIPTS

- Your own scripts can be imported into other scripts
- Save a script as [filename].py, e.g. `script1.py`
- You can import from any file which is in the same folder in the same way as importing standard library modules, e.g. `import script1`
- Files must be in same folder, avoid using names of libraries that already exist (`time`, `math` etc.)
- Useful for splitting up more complex programs

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CHALLENGE 4

- Go to github.com/LewisGaul/python-tutorial, download `challenge4`
- Work out how the code works (try adding in some print statements)
- Write comments with '#' to explain how it works
- When you understand it all have a go at the challenge
- Try to use sensible variable names
- Avoid using too many indented layers or repeating code

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