

# Exercise: Python Overview

## Question

- define variables of each basic python type
- they should describe you (name, age, location, etc.)
- print these out
- print all strings in upper case
- print whether your age is over 18
- print 10 dashes

## Question

- define a functions called :
  - `mean` which takes three parameters and returns their mean
  - `cube` which cubes its first argument
  - `is_adult` which says whetehr its first argument is more than 18
- define three variables:
  - `mean_ages` which is mean of 18,18,20
  - `two_later` which is 2 cubed
  - `teen_is_adult` which is whether an age of 15 is adult
- define function `show( )`
  - which prints the three variables above

## Question

- define a list `cart` which is a shopping cart
  - add several items to it
  - print out the first, last and middle two items
  - insert a new item at the start
  - print the whole list

## Question

- import pandas, matplotlib's pyplot with the standard alises
- define a dictionary called `facebook_users`
- keys are columns: "uid, followers, friends, total\_comments, total\_likes"
- values are lists (rows): eg., a list of user ids
- create a pandas data frame from this dictionary
- use matplotlib to draw a scatter of the dictionary: followers vs total\_likes

## Question

- define a list of names
- use a list comprehension to make a new list of
  - uppercase names
  - lowercase names
  - booleans, where True if the length of the name is more than 5 characters