Course website: https://python.pages.doc.ic.ac.uk/2021/

Classes, methods, attributes and arguments:

* Shape

  Description automatically generated with medium confidence association just line []
* Shape, rectangle

  Description automatically generated[composition [filled diamond], aggregation [unfilled diamond]]

Refactoring:

* Minimise repetition in code is the main idea
* Remember @abstractmethod etc
* Text

  Description automatically generated
* Deep learning [Pytorch, JAX and Tensorflow]: Focus on Pytorch
  + Compute loss and then update parameters using back propagation [minimise loss]
  + Pytorch [more manual control, generates graphs dynamically]
  + Tensorflow for static graphs [then compile and train]
  + Design factors: input data, output data and loss function, internal network structure and how to train and test the network
  + NN only processes vectors as inputs therefore flatten input.
  + Optimisers for training and testing 🡪 Adam and RMSprop
* Lec 6 material:
  + Difference between is [check id via id()] and == [standard equality]]. -5 to 256 stored in memory. If greater than 256, then store variables in single line [then is, is True].
  + Fixed in memory for current interpreter session
  + Keys of dictionaries hashed before inserted. Overriding value
  + Sorted() takes tuple and gives list
  + Sorted() [returns list], reversed() [returns iterator] and iter()
  + Remember reversed then sorted [creates list out of empty iterator]
  + **Values of sequence once use iterator. More than once use list or tuple [permanent sequence] 🡪 not needing to consume it to use it more than once**
  + Remember tuple is immutable