



# Lecture Week 7

## Packages, Libraries and Modules

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COMP16321

Introduction to Programming 1

# INTRO

- Intentionally left blank

# Python Modules

- Python modules are external python files
- Allows code reuse
- A bunch of external function/class or variable definitions
- Modules should have short, all-lowercase names
  - Underscores can be used
  - modules have a .py extension
- import keyword incorporates them

# Docstring Conventions

- documented using docstring conventions.
  - As defined in PEP (Python Enhancement Proposal) 257
- first statement in a module, function, class, or method definition.
- One liners are for very obvious cases.
- Multi-line docstrings consist of a summary line
- Docstring processing frameworks generate help information for the modules.

# help()

- The help function will give you information on the functionality of the module
- works with all modules
- You don't need to know how a function was implemented

```
import module_name  
help(module_name)
```

# Namespaces and dir()



- the module is imported into its own namespace when using:  
**`import module_name`**
- Separate namespaces are good, they avoid name clashes
- using dot notation
- The dir function returns all the names in a given namespace
- This import method will import everything!

# So far...

- create a module
- document a module
- import a module
- namespaces
- accessing named elements from within a namespace
- help with unfamiliar modules
- taking a look at names within a namespace
- Confused? Let's take a look at an example.



# End of Introduction

- After feedback regarding the length of videos we have split them up.
- So... if you feel tired take a break, have a cup of tea
- Click the next video when refreshed to see how we can implement everything discussed so far