

## Lesson Plan 12 | Form 2 | Introduction to PyCharm

### Objective

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Students will be introduced to an IDE, specifically PyCharm. They will understand how an IDE makes software development easier.

### Warm-up

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None.

### Presentation

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In lecture, talk about how students have been writing and running their Python code to date. Remind students that a program is just one or more text files, and that we simply give these files to another program (i.e., Python) to run them.

Mention some of the downsides of just using a text editor and terminal. Some downsides include:

- Working on many files at once can be challenging.
- Sometimes it can be difficult to see where an error is occurring in our code.
- It can be hard to keep everything organized.

This is where an Integrated Development Environment (IDE) is useful. It “integrates” the files in our program with the Python terminal that runs our program, so we can see both together in a helpful way. In ICT Practical, the particular IDE we’ll use is called PyCharm.

### Guided Practice (requires central file server)

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In lab, have students open their shared file directory in PyCharm. Have them click on the various Python files they’ve saved there and run them using the green triangle button at the top of the file. Encourage them to make a few changes to their files, both correct and incorrect, and see how PyCharm displays errors in a user-friendly way.

### Independent Practice

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In PyCharm, have students create a new Python file in their directory and enter any code they want. Walk around as they are typing and running their files to help with issues, IDE-specific tips, etc.

### Closing

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Ask students whether they think PyCharm is better/easier than using a text editor and terminal. If the response is overwhelmingly positive, conclude by saying that it will be our preferred way of creating and running Python programs in the weeks ahead, but that it’s important to remember that we can always use a text editor and terminal if we don’t have access to an IDE.

## **In Hindsight**

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02/15/2017: Students understood the concept of, and need for, an IDE, compared to their current process of using a text file and terminal (which is useful when just starting out to convey the fact that programs are just text files that we run using another program). In one stream, two students collectively guessed what “IDE” stands for, which was impressive for them never having seen the term used before. During lab, some students bogged down PyCharm by running too many instances of an infinitely running program, so I needed to explain how to stop/terminate processes in the Run pane. Some students independently explored the files comprising Python and its libraries, and others found various tooltips, auto-fill prompts, etc. I explained these to the class as they were found by students, and if they were relevant to at least most of them.