# Network of Teaching Excellence in Computer Science

## Introduction to Programming in Python

### Outline

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| Objectives | To understand the basics of programming (variables, assignment, selection and some iteration) in a programming language suitable for school teaching  This session maps to the following topic areas in the TA Matrix of Range and Content at Primary and Secondary: **A1, A3 A4, D1, P1, P2, P3, P4, P5, P10, P11**  See <http://www.computingatschool.org.uk/data/uploads/CSSubjectKnowledgeRequirements.pdf> for more information |
| Target audience | Teachers of KS2 - KS4  No programming knowledge is needed |
| Structure of day | |
| Session 1  9:45 - 11:00 | The Python programming environment – using IDLE  Programs that input and output data |
| 11:00 | Coffee/tea break |
| Session 2  11:15 - 13:00 | Conditions and changing the flow of control    Practice: the Maze Game |
| 13:00 | Lunch |
| Session 3  13:45 - 14:45 | Using the while loop: repeating statements  Practice: Guessing Game |
| 14:45 | Coffee/tea break |
| Session 4  15:00 - 16:00 | Practice: Creating a quiz |
| 16:00 | Evaluation and end of day |
| Resources provided | Python programs to demonstrate  Video tutorials for each stage on <http://pythonschool.net>  Exercises to complete with answers  Powerpoint presentation (to show exercises) |
| Resources you will need to provide | Trainer confident in Python 3  Computers and internet access  Python 3 |
| Alternative activities | Could start with CS Inside algorithm exercise (resources here) and move program by up by 30 minutes at each stage (leave out Quiz) |