

Year 11 to 12 Summer Work

You will be learning how to write Object Oriented Programs using Python in Year 12.

Your summer work is to improve your skills using the www.teachyourselfpython.co.uk

Python Install

The best thing to do is to download Python IDLE onto your home PC as you will be using this in the A-Level exam, then use IDLE to write the programs rather than the 'trinket' editor on the website. You can download Python from this webpage

<https://www.python.org/downloads/release/python-373/>

If you don't know which download to choose (it depends on the PC you are installing it on) choose

macOS 64-bit/32-bit installer for a Mac

Windows x86 executable installer for a Windows PC

Tasks

If you struggled with the Programming at GCSE start with

01 Solve and Learn, 3- Introducing the basics Sequence Selection and Iteration and then work your way through the challenges and information

01 Solve and Learn
1-Python Start here
2-Absolute Beginner Pathway
3-Introducing the basics Sequence Selection Iteration
4-Lists Matrix Loops String Manipulation Dictionaries
5-File Handling Read Search Write Files
6-Advanced Classes OOP Programming
7-Sorting Searching Algorithms

02 Challenges Basic Intermediate
Advanced

03 Pygame Challenges and Learn

04 Mini Projects NEA Samples
Tutorials

05 Python Databases SQLite

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tests) for both

```
main
1
2 name = in
3 print("He
4
```

01 Solve and Learn
1-Python Start here
2-Absolute Beginner Pathway
3-Introducing the basics Sequence Selection Iteration
0-Introduction
1-Chatbot Variables
2-Password IF Statements
3-Create Main Menu functions
4-Complete Quiz 3 Questions
5-Adding Score variable global
6-Debug this code
7-Introducing While loops Boolean flags
8-Introducing Validation password creation
9a-For Loop Guess the number
9b-For Loop Password Challenge
9c-For Loop Times table challenge
FINAL CHALLENGE
Skills Consolidation Task 1

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1
2 name
3 print
4
```

Once you have done that move onto 4 – Lists Matrix Loops String Manipulation Dictionaries and then onto 5 - File Handling Read Search Write Files

September Year 12

We will start Year 12 by looking at 6 – Advances Classes OOP but if you feel confident with sections 4 and 5 already go ahead and learn how to do it during the holidays, the more you know by September the better.

5-File Handling Read Search Write Files

6-Advanced Classes OOP Programming

01-Introduction to OOP

02-Create Classes Abstraction

03-Library Management System

04-Single Inheritance

05-Multiple Inheritance

06-Multilevel Inheritance

07 Encapsulation access specifiers

08 Polymorphism in Python

7-Sorting Searching Algorithms

02 Challenges Basic Intermediate Advanced

```
2 name = 1
3 print("H
4
```