

Name:

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Academy Shoreditch



Sixth
Form

Summer Assignment

Computer Science

PyGame Programming

In order to be successful in A Level Computer Science, you MUST program in your spare time at home. If you don't do this, you will not have the level of programming needed to do the project or the exams. Programming is a much bigger part of the course than it was at GCSE.

With this in mind, over summer you should start gaining the skills needed to independently learn to program. Your summer assignment is to create a game using the PyGame library.

Your game must meet the following criteria:

- At least one player controlled by arrow keys
- Items to collect
- An end of the game (e.g. when all coins are collected)

Extension tasks:

- Multi-player
- Enemies
- Multiple levels
- Introduction and end screen
- Use your creativity!

I recommend using one of the following resources:

1. <http://programarcadegames.com/>
 - a. This is an excellent website (how I learned PyGame!). To get the most from it, you need to read and run each bit of code as you go in order to fully understand what you're doing.
2. <https://youtube.com/playlist?list=PLxPGul-jRTkyqubyUX4GTh2UJQYbhQyyK>
 - a. Search on youtube 'Lauren Gillott' → go to my channel → find the playlist called **PyGame Tutorials (Procedural)**
 - b. These are tutorials from Ms Gillott showing you the basics of PyGame before talking you through making full games.
 - c. Note: these are **procedural** programming. There is also a playlist on **Object Oriented Programming**. You haven't learned this yet, but will in Y12.

Note: If you did not do GCSE Computer Science and don't know how to program, your priority is learning Python. First, you should complete Codecademy Learn Python 3. When this is done, email Ms Gillott for other work. You don't need to make a game unless you're confident you understand what you're doing.