COMPUTER SCIENCE
GCSE TO A LEVEL

SUMMER ASSIGNMENT:

Python Programming Task

We will be following the OCR A Level Computer Science specification. Problem solving and programming are at the heart of this course.

We will be learning Python which is one of the most popular languages in use and commonly used in GCSE Computer Science

Python is a good language to try on your own as it requires less installation than some other languages and can be run on any type of machine. There are even some online versions which can be run in a browser.

For your summer programming task, you will be writing some Python as well as some HTML.

If you have no prior knowledge of Python, go through this free course:

https://www.learnpython.org/

Do the topics under 'Learn the Basics', up and including 'Functions'. Provide screen-shots of your progress.

If you have a reasonable knowledge of Python, do the following problems:

1. Write a program that accepts a list of positive integers from the user, terminated by a zero. It then writes out the sum, average, maximum and minimum of the numbers.

2. Write a program that reads a sentence from the user. It then writes out the sentence in reverse order, with all uppercase letters changed to lowercase and lowercase to uppercase. Punctuation, spaces etc should be unchanged.

Be ready to hand in your work in the first lesson in September

Websites and HTML

Learn some HTML Hypertext Markup Language and write a webpage. www.w3schools.com

HTML Task 1

1. Open a notepad file and write in the following text.
[put in your name and interests]

```
<!DOCTYPE html>

<html>
<body style="background-color:Bisque;
color:Maroon">

<h1>My name is your name here</h1>
<hr>
<hr>
<p>I am interested in maths and computing (change
as you like)</p>

</body>
</html>>
```
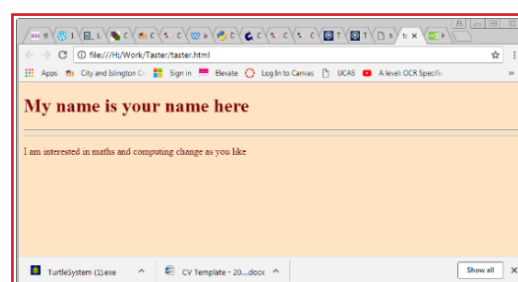
2. SAVE AS mywebpage.html and then open in a browser. Next change some of the tags and properties. Eg try different colours. Put in more <hr>
For other colours try
https://www.w3schools.com/tags/ref_colornames.asp
or
http://www.w3schools.com/tags/ref_colorpicker.asp

For London's Ambitious
candi.ac.uk

part of
**Capital City
College Group**

Ofsted
Good
Provider

CITY AND ISLINGTON
COLLEGE

html tag guide:

**
 line break,**

<hr> horizontal ruler

<p></p> paragraph

<h1></h1> header

This links to the BBC website

<img src "myphoto.jpg" width="200" height="150">

<body style="background-color:#cccc99; color:#003f9f"> </body>

HTML Task 2

1. Work through www.w3schools.com HTML tutorial and learn about more features: eg

HTML Editors	HTML Headings	HTML Images
HTML Basic	HTML Paragraphs	HTML Links
HTML Elements	HTML Styles	HTML CSS
HTML Attributes	HTML Lists	

2. Choose a topic that interests you. Ideas: Card Games, Sports, Fish, Countries, Capital Cities, Vegetables and write a webpage or mini website. It is best to use notepad or notepad++ rather than software like 'Dream Weaver' to learn html.

3. The most important thing is to have fun and learn. Please bring your html file to the first lesson on a USB Flash Memory stick.

Theory work – Especially if no GCSE

If you have not GSCE before, you MUST woprk through topics before starting the course.

Even if you have done some GCSE, you need to revise topics you found difficult.

Use these resources:

https://student.craigndave.org/gcse-ocr-j277-computer-science-videos

https://www.bbc.co.uk/bitesize/examspecs/zmtchbk (GCSE, OCR Computer Science)

Try the questions on the BBC site here: https://www.bbc.co.uk/bitesize/topics/zw7cwsg/articles/ztkvrmn and provide a screen-shot of your progress.