newcollege Bradford

A Level Computer Science – Yr12 to Yr13 SIL (Summer Independent Learning)

Deadline: First lesson back after Summer 2023– w/c 11th Sept 2023

Compulsory – must do!

Part 1 – Project Development

It is now time to begin the actual development of your project. As discussed in class, your development should be an iterative process with multiple prototypes of the various elements to your system. You should refer to the marking criteria below for guidance throughout your development process. Testing should be a continuous factor during your development, tests should be evidenced along the way showing how you fixed any errors or bugs.

AO 3.2 Developing the coded solution (maximum 25 marks)			
Iterative development of a coded solution (maximum 15 marks)			
1–4 marks	**5–8 marks**	**9–12 marks**	**13–15 marks**
The candidate will have:			
• Provided evidence of some iterative development for a coded solution. • Solution may be linear. • Code may be inefficient. • Code may not be annotated appropriately. • Variable names may be inappropriate. • There will be little or no evidence of validation. • There will be little evidence of review during the development.	• Provided evidence for most stages of the iterative development process for a coded solution describing what they did at each stage. • Solution will have some structure. • Code will be briefly annotated to explain key components. • Some variable and/or structure names will be largely appropriate. • There will be evidence of some basic validation. • There will be evidence that the development was reviewed at some stage during the process.	• Provided evidence of each stage of the iterative development process for a coded solution relating this to the break down of the problem from the analysis stage and explaining what they did at each stage. • Provided evidence of some prototype versions of their solution. • The solution will be modular in nature. • Code will be annotated to explain all key components. • Most variables and structures will be appropriately named. • There will be evidence of validation for most key elements of the solution. • The development will show review at most key stages in the process.	• Provided evidence of each stage of the iterative development process for a coded solution relating this to the break down of the problem from the analysis stage and explaining what they did and justifying why. • Provided evidence of prototype versions of their solution for each stage of the process. • The solution will be well structured and modular in nature. • Code will be annotated to aid future maintenance of the system. • All variables and structures will be appropriately named. • There will be evidence of validation for all key elements of the solution. • The development will show review at all key stages in the process.
Testing to inform development (maximum 10 marks)			
1–2 marks	**3–5 marks**	**6–8 marks**	**9–10 marks**
The candidate will have:			
• Provided some evidence of testing during the iterative development process.	• Provided some evidence of testing during the iterative development process. • Provided evidence of some failed tests and the remedial actions taken.	• Provided evidence of testing at most stages of the iterative development process. • Provided evidence of some failed tests and the remedial actions taken with some explanation of the actions taken.	• Provided evidence of testing at each stage of the iterative development process. • Provided evidence of any failed tests and the remedial actions taken with full justification for any actions taken.

Compulsory – must do!

Part 2 – Past Papers

Complete the two exam papers found in the Teams assignment named **"SIL – Past Papers**" on our class Teams. You should complete these in 'open book' format. This will benefit you by ensuring you continue to recall and apply the theory we have learned throughout the year.

You may complete online, print and work on the exam paper or write your answers in a separate notebook with questions clearly labelled.

Optional Activities

Ed Stout – IT Support Services Manager at Leeds Beckett University. Talks about his journey from college to current managerial position. Tips on how to gain experience, routes into the industry and what he looks for when recruiting.

IT Work Experience Talk

Here are a collection of interesting talks and interviews that will expand your understanding of the world of IT and Computing:

Joe Rogan Experience #1368 - Edward Snowden

YouTube CEO Susan Wojcicki | Full interview | Code 2019

How I used to rob banks! by FC (aka Freaky Clown)

GOTO 2018 • The Future of the Web • Sir Tim Berners-Lee

The mind behind Linux | Linus Torvalds

There are a series of good YouTube channels that regularly post interesting videos about the world of IT and Computing:

Linus Tech Tips

Computerphile

Techquickie

Crash course computing

Explaining computers

Another great exercise is to regularly read news articles and stories. These will keep you up to date with all of the latest happenings in technology:

BBC
Sky
The Guardian
Computer World
CNET