



12 Pages

1. Please give the information requested in the boxes below.
2. Enter your name in the space provided to the right, fold over and seal down (using the label provided) to hide your name.
3. The answers must be legibly written. The Examiners can either ignore illegible script or have it typed and the expense of typing charged to the candidate.
4. Write your answers in ink.
5. Begin each answer on a fresh page. Do all rough work in the answer book and cross it through.
6. No part of this book is to be torn out; it must be handed in complete.
7. If more books than one are used, fasten them together using the tags available from the invigilator(s).
8. **Every book must be handed in. In no circumstances may answer books, used or unused, be taken out of the examination venue.**

Complete, fold and seal
(see note 2 below)

SURNAME: JAMES

FORENAME(S): Steven Ryan

1	Student Number	SJ153398
2	Title of Examination Paper	Software development
3	Module Code	ACCA 4017
4	Date and Time of Examination	17:10 09/01/2019
5	Examination Venue	G42
6	Seat Number	
7	Number of Answer Books handed in	1

List the numbers of the questions you have attempted	Office Use
1a	1
1b	1
1c	3
1d	2+
2a	10
2b	0
2c	10
3a	6
3b	15
4a	5
4b	2
4c	5
Total	60

(Gweler yr ochr arall am y fersiwn Cymraeg)

195

637

1

a The queue data Structure uses a First in First Out Concept. This means that items that are inserted first are first to go out. Printing items from a computer to a printer is the best example of this. A queue data Structure ensures that items are printed in the order in which they are supposed to.

b A Stack data Structure uses a last in First out Concept. This means that items inserted last are first to be removed. Web browsers use this method, as do media editing programs. These applications have an undo button which uses the Stack data Structure.

c QuickSort is a Sorting method that uses a divide and conquer algorithm. The QuickSort will divide one large array into two smaller arrays to make sorting it easier. This is repeated until all elements in an array are sorted. QuickSort is a recursive sort algorithm. Recursive algorithm ~~to~~ takes inputs and splits the input into smaller inputs, sorting them, then combining the results.

d Object oriented Programming is a language model that focuses more on objects and data rather than actions and logic. This language model cares more about the objects being manipulated rather than the logic required for the manipulation. In C#, inheritance is a concept which allows us inherit properties from a base class for reuse in a child class.

Question No.

2

b

3 a 2 Pages over

4 a

- 1) White box testing is used to test the internal structure of an application. ~~Access~~ The tester would have access to the program's source code. ✓
- 2) Black box testing is used to test the functionality of an application. The tester would have no knowledge of the internal structure. ✓
- 3) Gray box testing is a combination of both black box and white box. It is used to test both internal structure and functionality depending on what needs testing. ✓

Question No.

4b Unit testing is a level of Software testing where each individual unit is tested. This level uses the white box testing method and comes prior to integration testing.

4c Incremental development is a development method where each development is cut into smaller tasks. Each task will be completed in smaller parts until the development as a whole is complete.

Iterative development is where the development gets created at a basic level and is continuously developed based on what is most required.

Advantages

An advantage of incremental development is that it's easier to test and debug. A disadvantage is that it's more costly.

An advantage of iterative development is that more time is spent on developing than documenting. A disadvantage is it's harder to test.

Question No.

3
a int ArrayAmount;
*Console.WriteLine ask user how many elements
Convert to int 32 Convert user input to int

Create Array using array amount as length

For loop
we local variable as array counter
Convert user input to input elements into
array

IF (Array[Counter] == 2)

{
Remove element from array
}

Use for loop to print new array without
element containing 2