

1 A program has been developed and released for general use. After a few months of use an error is detected where under certain circumstances it outputs an unexpected value.

(a) The error in the program needs to be corrected.

Identify the stage of the program development life cycle that this correction is made in.

..... [1]

(b) The program contains a function `Lookup()`. After investigation, it is found that this is the function that sometimes returns an incorrect value.

An Integrated Development Environment (IDE) is used to help locate the error.

The IDE features of watch window, single stepping and breakpoint will be used.

Explain these features including the order that they will be used in to locate the error in `Lookup()`.

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..... [3]

(c) To solve the error a programmer decides to create a new module.

The design of the new module has been completed and the module is being coded.

Identify **two** features of an IDE that will help during the coding of this new module.

1

2

[2]

(d) The new module referred to in part (c) introduces **three** new variables.

Complete the following table by giving the appropriate data type for each.

Variable name	Used to store	Data type
Name	A customer name.	
Index	An array index.	
Result	The result of the division of any two non-zero numbers.	

[3]