

7 A coffee shop owner wants to introduce a computerised loyalty card system.

A programmer discusses the details of the system with the shop owner.

- (a) Identify the stage of the program development life cycle that this discussion is part of **and** give a document that will be produced during this stage.

Stage .....

Document .....

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- (b) The shop will give each customer a loyalty card that displays a unique customer ID as a bar code. A customer will be able to present their card each time they make a purchase. The system will scan the bar code, calculate points, and add them to the customer’s total. When the customer next makes a purchase and presents their card, they will have the option to exchange points for a discount.

The designer decides that this activity will be handled by a new module. Decomposition will be used to break the problem of designing the new module down into sub-problems (sub-modules).

Identify **four** sub-modules that could be used in the design of the new module **and** describe their use.

Sub-module 1 .....

Use .....

Sub-module 2 .....

Use .....

Sub-module 3 .....

Use .....

Sub-module 4 .....

Use .....

[4]