Section B

Enter your answers to **Section B** in your Electronic Answer Document.
You **must save** this document at regular intervals.

The question in this section asks you to write program code **starting from a new program/project/file**.

You are advised to save your program at regular intervals.

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0 1 **Figure 1** shows an example of the calculation of an additive persistence of a two-digit integer.

Figure 2 shows an example of the calculation of multiplicative persistence of a two digit number.

Figure 1

Example: calculating the additive persistence of 87

8 + 7 = 15
1 + 5 = 6

After 2 steps the method results in a one digit answer so the additive persistence of 87 is 2.

Figure 2

Example: calculating the multiplicative persistence of 39

3 * 9 = 27
2 * 7 = 14
1 * 4 = 4

After 3 steps the method results in a one digit answer so the multiplicative persistence of 39 is 3.

The `MOD` operator calculates the remainder resulting from an integer division, for example, `10 MOD 3 = 1`.

The `DIV` operator calculates integer division, for example `10 DIV 3 = 3`.

What you need to do

Task 1
Write a program that will ask for a 2 digit number followed by a question whether you want to calculate the additive (a) or multiplicative (m) persistence of the number.

Task 2
Test the program by showing the result of entering `47`, followed by `m` when prompted by the program.

Task 3
Test the program by showing the result of entering `77`, followed by `a` when prompted by the program.

Evidence that you need to provide
Include the following evidence in your Electronic Answer Document.

0 1 . 1 Your PROGRAM SOURCE CODE.

[8 marks]

0 1 . 2 SCREEN CAPTURE(S) showing the tests described.

[1 mark]