Section B

You are advised to spend no more than **15 minutes** on this section.

Type 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.**

- Save your program/project/file in its own folder/directory.
- You are advised to save your program at regular intervals.

Question 4 Create a folder/directory **Question4** for your new program.

The algorithm, represented using pseudo-code in **Figure 4**, and the variable table, **Table 3**, describe a program that calculates and displays all of the prime numbers between 2 and 50, inclusive.

The MOD operator calculates the remainder resulting from an integer division eq 10 MOD 3 = 1.

If you are unsure how to use the MOD operator in the programming language you are using, there are examples of it being used in the **Skeleton Program**.

Figure 4

Table 3

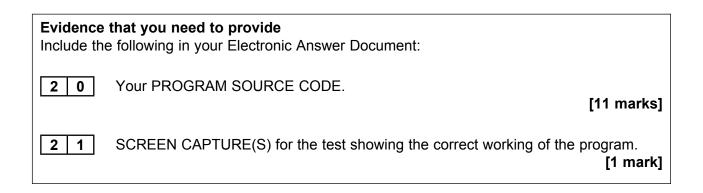
Identifier	Data Type	Purpose
Count1	Integer	Stores the number currently being checked for primeness
Count2	Integer	Stores a number that is being checked to see if it is a factor of Count1
Prime	String	Indicates if the value stored in Count1 is a prime number or not

What you need to do

Write a program for the algorithm in Figure 4.

Run the program and test that it works correctly.

Save the program in your new **Question4** folder/directory.



Describe the changes that would need to be made to the algorithm shown in **Figure 4**, so that instead of displaying the prime numbers between 2 and 50, inclusive, it displays all the prime numbers between 2 and a value input by the user, inclusive.

[3 marks]

Turn over for Section C