0 1 The pseudo-code in **Figure 1** assigns two string values to two variables.

Figure 1

```
title ← 'computer science'
level ← 'gcse'
```

0 1 . 1 Shade **one** lozenge that shows the length of the contents of the variable `level` in **Figure 1**.

[1 mark]

A 1 ⬭

B 2 ⬭

C 3 ⬭

D 4 ⬭

0 1 . 2 Shade **one** lozenge that shows the result of concatenating the variable `title` with the variable `level` in **Figure 1**.

[1 mark]

A `'computer science gcse'` ⬭

B `'Computer Science GCSE'` ⬭

C `'computersciencegcse'` ⬭

D `'computer sciencegcse'` ⬭

0 1 . 3 Shade **one** lozenge to show which of the following strings is a substring of the variable `title` in **Figure 1**.

[1 mark]

A `'compsci'` ⬭

B `'puters'` ⬭

C `'sci'` ⬭

D `'tersci'` ⬭

0 1 . 4 The Unicode character code of `title[0]`, which is `'c'`, is 99.

Shade **one** lozenge to show the Unicode character code of the character `level[3]` in **Figure 1**.

[1 mark]

A 95 ⬭

B 99 ⬭

C 101 ⬭

D 103 ⬭

Turn over for the next question

0 2 **Figure 4** shows a C# program that calculates car park charges.

The user inputs their car registration (eg `MA19 GHJ`) and the length of the stay. The program then outputs the charge.

- Line numbers are included but are not part of the program.

Figure 4

```
1   int charge = 0;
2   Console.Write("Enter your car registration: ");
3   string carReg = Console.ReadLine();
4   while (carReg.Length > 8) {
5      string displayMessage = " is not valid";
6      Console.Write(displayMessage);
7      carReg = Console.ReadLine();
8   }
9   Console.Write("Enter your stay in hours: ");
10  int hours = Convert.ToInt32(Console.ReadLine());
11  if (hours < 2) {
12     charge = 0;
13  }
14  else {
15     charge = hours * 2;
16  }
17  Console.WriteLine(charge);
```

0 2 . 1 Rewrite **line 5** in **Figure 4** to **concatenate** the car registration with the string `" is not valid"`, and store the result in the variable `displayMessage`.

Your answer must be written in C#.

[1 mark]

0 3 **Figure 8** shows an algorithm represented using pseudo-code.

- Line numbers are included but are not part of the algorithm.

Figure 8

```
1   names ← ['Lily', 'Thomas']
2   name1 ← 'Sarah'
3   name2 ← 'Freddie'
4   OUTPUT name1[0]
5   OUTPUT LEN(names)
6   var ← SUBSTRING(0, 3, name1)
7   OUTPUT var
```

`SUBSTRING` returns part of a string.

For example, `SUBSTRING(3, 5, 'programming')` will return the string `'gra'`.

0 3 . 1 Shade **one** lozenge which shows the output of **line 4** from the algorithm shown in **Figure 8**.

[1 mark]

A `F` ⬭

B `Freddie` ⬭

C `Lily` ⬭

D `S` ⬭

E `Sarah` ⬭

0 3 . 2 Shade **one** lozenge which shows the output of **line 5** from the algorithm shown in **Figure 8**.

[1 mark]

A	1	⬭
B	2	⬭
C	4	⬭
D	5	⬭
E	10	⬭

0 3 . 3 State the output of **line 7** from the algorithm shown in **Figure 8**.

[1 mark]

0 3 . 4 Two extra lines are being added to the end of the algorithm in **Figure 8**.

Fill in the gaps so the output from the new final line will be the string `'Thomasrah'`.

[2 marks]

```
var ← SUBSTRING( _____ , _____ , name1)

OUTPUT names[ _______ ] + var
```

Turn over for the next question

0 4 **Figure 1** shows an algorithm, represented using pseudo-code, which assigns a different value to four variables.

Figure 1

```
country ← 'United States of America'
state ← 'California'
city ← 'San Francisco'
landmark ← 'Alcatraz Island'
```

0 4 . 1 Define the term **algorithm**.

[2 marks]

0 4 . 2 The variable x is assigned a value using the statement:

```
x ← LEN(state)
```

Using **Figure 1**, what is the value of x?

Shade **one** lozenge.

[1 mark]

A 1 ⬭

B 5 ⬭

C 10 ⬭

D 12 ⬭

0 4 . 3 What is the result of concatenating the contents of the variables `city` and `landmark` in **Figure 1**?

Shade **one** lozenge.

[1 mark]

A `San Francisco Alcatraz Island` ⬭

B `San Francisco,Alcatraz Island` ⬭

C `San Francisco, Alcatraz Island` ⬭

D `San FranciscoAlcatraz Island` ⬭

0 4 . 4 The subroutine `SUBSTRING` extracts characters from a given string.

For example, `SUBSTRING(3, 5, 'Computing')` would return `put`

The variable `y` is assigned a value using the statement:

```
y ← SUBSTRING(4, 7, landmark)
```

Using **Figure 1**, what is the value of `y`?

Shade **one** lozenge.

[1 mark]

A `Alca` ⬭

B `Atra` ⬭

C `land` ⬭

D `traz` ⬭

Figure 1 has been included again below.

Figure 1

```
country ← 'United States of America'
state ← 'California'
city ← 'San Francisco'
landmark ← 'Alcatraz Island'
```

0 4 . 5 The subroutine `POSITION` finds the first position of a character in a string.

For example, `POSITION('Computing', 'p')` would return 3

The variable `z` is assigned a value using the statement:

```
z ← POSITION(landmark, 't')
```

Using **Figure 1**, what value is assigned to `z`?

Shade **one** lozenge.

[1 mark]

A −1 ⬭

B 3 ⬭

C 4 ⬭

D 5 ⬭

0 5 The pseudo-code in **Figure 1** assigns two string values to two variables.

Figure 1

```
title ← 'computer science'
level ← 'gcse'
```

0 5 . 1 Shade **one** lozenge that shows the length of the contents of the variable `level` in **Figure 1**.

[1 mark]

A 1 ⬭

B 2 ⬭

C 3 ⬭

D 4 ⬭

0 5 . 2 Shade **one** lozenge that shows the result of concatenating the variable `title` with the variable `level` in **Figure 1**.

[1 mark]

A `'computer science gcse'` ⬭

B `'Computer Science GCSE'` ⬭

C `'computersciencegcse'` ⬭

D `'computer sciencegcse'` ⬭

Turn over for the next question

0 6 Write a C# program that inputs a character and checks to see if it is lowercase or not.

Your program should work as follows:

- gets the user to enter a character and store it in a suitable variable
- determines if the entered character is a lowercase character
- outputs `LOWER` if the user has entered a lowercase character
- outputs `NOT LOWER` if the user has entered any other character.

You **should** use meaningful variable name(s), correct syntax and indentation in your answer.

The answer grid below contains vertical lines to help you indent your code accurately.

[7 marks]

0 7 **Figure 1** shows an algorithm, represented using pseudo-code.

The algorithm assigns different values to two variables, then asks the user to input a letter.

Figure 1

```
film ← "Godzilla vs. Kong"
year ← 2021
OUTPUT "Please guess a letter"
letter ← USERINPUT
```

0 7 . 1 Which pseudo-code statement assigns the length of the string `film` to a variable called `value`?

Shade **one** lozenge.

[1 mark]

A `film ← LEN(value)` ⬭

B `film ← film + value` ⬭

C `value ← film` ⬭

D `value ← LEN(film)` ⬭

0 7 . 2 The `POSITION` subroutine returns the position of the first occurrence of a character in a string.

For example:

- `POSITION("Godzilla vs. Kong", "o")` would return `1`
- `POSITION("Godzilla vs. Kong", "z")` would return `3`

`letter` and `film` are variables used in the algorithm in **Figure 1**.

Complete the pseudo-code statement to find the position of the first occurrence of the contents of `letter` in `film` and store this position in the variable `location`

You **must** use the `POSITION` subroutine in your answer.

[1 mark]

`location ←` _____

_____

0 7 . 3 Which of the following would be the most suitable data type for the variable `year`?

Shade **one** lozenge.

[1 mark]

A Boolean ⬭

B character ⬭

C integer ⬭

D real ⬭

0 7 . 4 Describe what is meant by an assignment statement in a program.

[1 mark]

_____

_____

0 7 . 5 Write a C# program that:

- gets the user to enter the name of a film
- displays `You entered` followed by the name of the film entered by the user.

The output from the program **must** be on one line.

You **should** use meaningful variable name(s) and C# syntax in your answer.

The answer grid below contains vertical lines to help you indent your code accurately.

[2 marks]