

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 VB.Net 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  Dim charge As Integer = 0
2  Console.Write("Enter your car registration: ")
3  Dim carReg As String = Console.ReadLine()
4  While carReg.Length() > 8
5      Dim displayMessage As String = " is not valid"
6      Console.WriteLine(displayMessage)
7      carReg = Console.ReadLine()
8  End While
9  Console.Write("Enter your stay in hours: ")
10 Dim hours As Integer = Console.ReadLine()
11 If hours < 2 Then
12     charge = 0
13 Else
14     charge = hours * 2
15 End If
16 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 VB.Net.

[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:

```
 $x \leftarrow \text{LEN}(\text{state})$ 
```

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:

$$y \leftarrow \text{SUBSTRING}(4, 7, \text{landmark})$$

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 VB.Net 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]

[illegible]

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 <code>film ← LEN(value)</code> | ☐ |
| B <code>film ← film + value</code> | ☐ |
| C <code>value ← film</code> | ☐ |
| D <code>value ← LEN(film)</code> | ☐ |

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 ←` _____

07.3 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

☐

07.4 Describe what is meant by an assignment statement in a program.

[1 mark]

Write a VB.NET 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 VB.NET syntax in your answer.

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

[2 marks]

[illegible]