Question	Part	Marking guidance	Total marks
01	1	**Mark is for AO2 (apply)** **B** Line number 2; **R.** If more than one lozenge shaded	1

Question	Part	Marking guidance	Total marks
01	2	**Mark is for AO2 (apply)** **E** 16; **R.** If more than one lozenge shaded	1

Question	Part	Marking guidance	Total marks
01	3	**Mark is for AO2 (apply)** **A** Line number 1; **R.** If more than one lozenge shaded	1

Question	Part	Marking guidance	Total marks
01	4	**Mark is for AO2 (apply)** **B** Line number 2; **R.** If more than one lozenge shaded	1

Question	Part	Marking guidance	Total marks
01	5	**Mark is for AO2 (apply)** **D** This algorithm uses the multiplication operator; **R.** If more than one lozenge shaded	1

Question	Part	Marking guidance	Total marks

01	6	**Mark is for AO3 (refine)**
		
		C#
		A
		`for (int x = 0; x < 5; x++) {`
		`  Console.Write("Enter a number: ");`
		`  int i = Convert.ToInt32(Console.ReadLine());`
		`  if (i % 2 == 0) {`
		`  Console.WriteLine(i * i);`
		`  }`
		`  else {`
		`  Console.WriteLine(i);`
		`  }`
		`}`
		
		Python
		A
		`for x in range(0, 5):`
		`  i = int(input("Enter a number: "))`
		`  if i % 2 == 0:`
		`  print(i * i)`
		`  else:`
		`  print(i)`
		
		VB.NET
		C
		`For x As Integer = 0 To 4`
		`  Console.Write("Enter a number: ")`
		`  Dim i As Integer = Console.ReadLine()`
		`  If i Mod 2 = 0 Then`
		`  Console.WriteLine(i * i)`
		`  Else`
		`  Console.WriteLine(i)`
		`  End If`
		`Next`
		
		R. If more than one lozenge shaded
			1

<table>
<tr><th>Question</th><th>Part</th><th>Marking guidance</th><th>Total marks</th></tr>
<tr><td>02</td><td>1</td><td>2 marks for AO2 (apply)

<table>
<tr><th>Input value of
orderTotal</th><th>Input value of
deliveryDistance</th><th>Output</th></tr>
<tr><td>55.5</td><td>2</td><td>1.5;</td></tr>
<tr><td>35.0</td><td>5</td><td>7.0;
A. 7</td></tr>
</table>
</td><td>2</td></tr>
</table>

<table>
<tr><th>Question</th><th>Part</th><th>Marking guidance</th><th>Total marks</th></tr>
<tr><td>02</td><td>2</td><td>Mark is for AO2 (apply)

2 // two;</td><td>1</td></tr>
</table>

<table>
<tr><th>Question</th><th>Part</th><th>Marking guidance</th><th>Total marks</th></tr>
<tr><td>02</td><td>3</td><td>2 marks for AO2 (apply)

<table>
<tr><th>Variable identifier</th><th>Data type</th></tr>
<tr><td>deliveryCost</td><td>Float // Real // Decimal</td></tr>
<tr><td>messageOne</td><td>String // str</td></tr>
</table>

I. Case
A. Programming language specific data types eg Single in VB.NET</td><td>2</td></tr>
</table>

<table>
<tr><th>Question</th><th>Part</th><th>Marking guidance</th><th>Total marks</th></tr>
<tr><td>02</td><td>4</td><td>Mark is for AO1 (recall)

Boolean // Bool;
Int // Integer;
Date/Time;
Character;

R. Any answer that was given in 02.3

I. Case
A. Any reasonable data type</td><td>1</td></tr>
</table>

Question	Part	Marking guidance	Total marks

03		**5 marks for AO3 (program)**
		
		1 mark for each correct item in the correct location.
		
		Python
		
		`num1 = int(input("Enter a number: "))`
		`num2 = int (input("Enter a second number: "))`
		`if num1 > num2:`
		`  print(" num1 is bigger.")`
		`elif num1 < num2:`
		`  print(" num2 is bigger.")`
		`else:`
		`  print("The numbers are equal.")`
		
		I. Case of response
		R. if any spelling mistakes
		
		C#
		
		`int num1;`
		`int num2;`
		
		`Console.WriteLine("Enter a number: ");`
		
		`num1 = int.Parse(Console.ReadLine());`
		
		`Console.WriteLine("Enter another number: ");`
		
		`num2 = int.Parse(Console.ReadLine());`
			5

```
if (num1 > num2)
{
    Console.WriteLine("    num1    is bigger.");
}
else
if (num1 <          num2)
{
    Console.WriteLine("    num2    is bigger.");
}
else
{
    Console.WriteLine("The numbers are equal.");
}
```

I. Case of response
R. if any spelling mistakes

VB.Net

```
Dim num1 As Integer
Dim num2 As  Integer

Console.Write("Enter a number: ")

num1 = Console.ReadLine()

Console.Write("Enter another number: ")

num2 = Console.ReadLine()
If num1 > num2 Then
    Console.WriteLine("  num1     is bigger.")
ElseIf num1  <          num2 Then
    Console.WriteLine("  num2     is bigger.")
Else
    Console.WriteLine("The numbers are equal.")
End If
```

I. Case of response
R. if any spelling mistakes

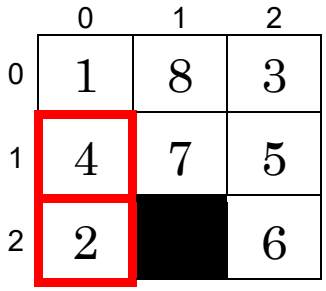
Question	Part	Marking guidance	Total marks
04	1	**Mark is for AO1 (understanding)** **A** (Line number 2) only; **If more than one lozenge shaded then mark is not awarded**	1
04	2	**Mark is for AO1 (understanding)** **C** (Line number 11) only; **If more than one lozenge shaded then mark is not awarded**	1
04	3	**Mark is for AO2 (apply)** **A** (1 subroutine call) only; **If more than one lozenge shaded then mark is not awarded**	1
04	4	**Mark is for AO2 (apply)** **B** (String) only; **If more than one lozenge shaded then mark is not awarded**;	1

Question	Part	Marking guidance	Total marks
04	5	**Mark is for AO2 (apply)** 2//twice//two; **I.** Minor spelling errors	1
04	6	**Mark is for AO2 (apply)** 2//two; **A.** true and false (or other possible indicators for true and false) **R.** Boolean	1
04	7	**Mark is for AO2 (apply)** 7; **A.** All of 3, 5 **and** 11 **A.** If instruction written out (a ← 2)	1
04	8	**Mark is for AO3 (program)** `q ← 2;` **A**. `a ← 1`, `a ← 4` **and** `FOR n ← 1 TO a` (only if all given)	1

Question	Part	Marking guidance	Total marks
05	1	**Mark is for AO2 (apply)** **D** `USERINPUT;` **If more than one lozenge shaded then mark is not awarded**	1
05	2	**Mark is for AO2 (apply)** **B** `0;` **If more than one lozenge shaded then mark is not awarded**	1
05	3	**Mark is for AO2 (apply)** **A** `=` ; **If more than one lozenge shaded then mark is not awarded**	1
05	4	**Mark is for AO2 (apply)** **D** `OUTPUT count;` **If more than one lozenge shaded then mark is not awarded**	1
05	5	**Mark is for AO2 (apply)** **B** `i ← i + 1;` **If more than one lozenge shaded then mark is not awarded**	1
05	6	**2 marks for AO2 (apply)** **Maximum of 1 mark if Upper Case Characters given** • 1 mark for a series of more than one correct frequency/value or value/frequency pairs (ignore order of pairs); • 1 mark for all correct pairs in the correct order; Correct answer is: 2 t 2 j 3 e 2 s Other, clear ways to show frequency/value or value/frequency pairs such as '(2, t), (2, j),…' or 't2 j2…'.	2

Question	Part	Marking guidance	Total marks
05	7	**3 marks for AO2 (apply)** Maximum three marks from: • It could be tested with only 1s; • It could be tested with different lengths of input; • It could be tested with an input where the 1s and 0s vary; • It could be tested with an input where the last two numbers are different; • It could be tested with the empty string; • It could be tested with a string of length one; • It could be tested with two runs of 0s separated by a run of 1s / two runs of 1s separated by a run of 0s; • It could be tested with invalid data (such as 1010abc); Any other correct reasoning as long as clearly distinct from other mark points. **R.** not enough tests are carried out.	3

Question	Part	Marking guidance	Total marks
06	1	**Mark is for AO2 (apply)** **B** Line number 2; **R.** If more than one lozenge shaded	1

Question	Part	Marking guidance	Total marks
07	1	**2 marks for AO2 (apply)**  **1 mark** for 4 in the correct position; **1 mark** for 2 in the correct position; **Maximum 1 mark** if any errors. **A**. 0 instead of blank space or any other sensible indicator for the blank space. **A**. unaffected cell contents not shown as long as it is clear which is the blank space. **A**. answers written on **Figure 15** if board is left blank.	2