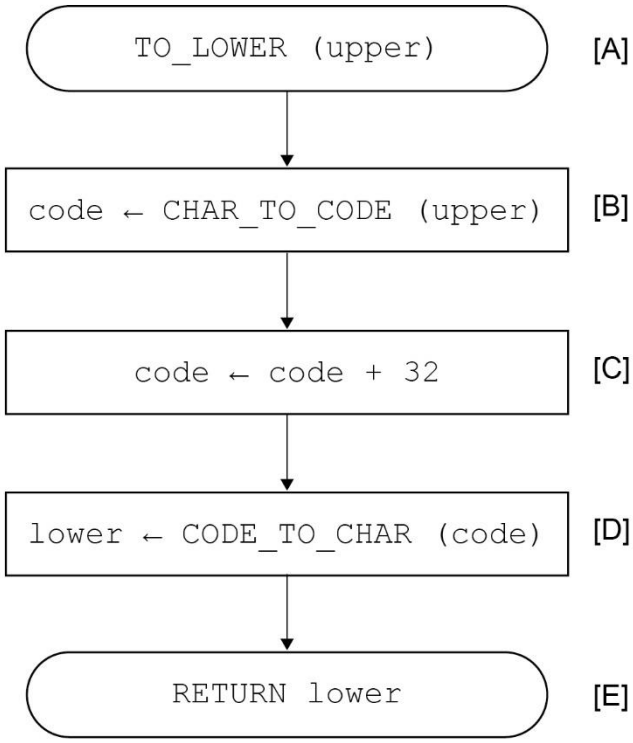
Qu	Part	Marking guidance	Total marks
01	1	**Mark is for AO1 (understanding)** **B**: `'d'`; **R.** If more than one lozenge shaded.	1
01	2	**Mark is for AO2 (apply)** G; **R.** g **I.** use of quote marks	1

Qu	Part	Marking guidance	Total marks
01	3	**5 marks for AO3 (program)** **Mark A** for defining a subroutine with the identifier `TO_LOWER` and one parameter; **Mark B** for using `CHAR_TO_CODE` with a variable parameter; **Mark C** for adding 32 to the result of mark B; **Mark D** for using the result of mark C as a parameter to the `CODE_TO_CHAR` subroutine; **Mark E** for returning the value of mark D; **Max 4 marks** if any errors in answer. Example of fully correct answer: `SUBROUTINE TO_LOWER(upper)` *[A]* `  code ← CHAR_TO_CODE(upper)` *[B]* `  code ← code + 32` *[C]* `  lower ← CODE_TO_CHAR(code)` *[D]* `  RETURN lower` *[E]* `ENDSUBROUTINE` Another example of a fully correct answer: `SUBROUTINE TO_LOWER(upper)` *[A]* `  code ← CHAR_TO_CODE(upper)` *[B]* `  RETURN CODE_TO_CHAR(code + 32)` *[C,D,E]* `ENDSUBROUTINE` Another example of a fully correct answer: `SUBROUTINE TO_LOWER(upper)` *[A]* `  RETURN CODE_TO_CHAR(CHAR_TO_CODE(upper) + 32)` *[B,C,D,E]* `ENDSUBROUTINE` Example of a 4 mark answer: `SUBROUTINE TO_LOWER(upper)` *[A]* `  code ← CHAR_TO_CODE(character)` *[B]* `  code ← code + 32` *[C]* `  lower ← CODE_TO_CHAR(code)` *[D]* `  RETURN lower` *[E]* `ENDSUBROUTINE` (only 4 marks awarded as answer contains an error where parameter to `CHAR_TO_CODE` is different to parameter for `TO_LOWER`)	5

Example of a fully correct flowchart solution:



Qu	Part	Marking guidance	Total marks
02		**1 mark for AO1 (understanding)** • To be able to represent additional/more characters/more languages (and symbols not available in the ASCII character set); • ASCII only allows 128 characters whereas Unicode can represent more; • To represent characters from other alphabets; **A.** a response that says a specific single character can be shown ie “a playing card character can be shown”; **A.** to represent non-English languages;	1

<table>
<tr><th>Qu</th><th>Part</th><th>Marking guidance</th><th>Total marks</th></tr>
<tr><td>03</td><td></td><td>
2 marks for AO2 (apply)

1 mark for each complete column with the correct values as below;

<table>
<tr><th>Character</th><th>ASCII value</th><th>Unicode value</th></tr>
<tr><td>w</td><td>119</td><td>119 // 77</td></tr>
<tr><td>x</td><td>120</td><td>120 // 78</td></tr>
<tr><td>y</td><td>121</td><td>121 // 79</td></tr>
<tr><td>z</td><td>122</td><td>122 // 7A</td></tr>
</table>
Note for examiner: award one mark for the Unicode column matching the ASCII column, even if incorrect ASCII values R. if any missing values

R. Binary values in the Unicode column
</td><td>2</td></tr>
</table>

Qu	Part	Marking guidance	Total marks
04	5	**Mark is for AO2 (apply)** **B** F; **R.** If more than one lozenge shaded	1
04	6	**All marks AO1 (understanding)** **Advantages:** Can represent a wider range of characters; Can represent characters from a wider range of languages; Can represent characters used in scientific / mathematical / technical / specialist documents;	2