

## Section B

You are advised to spend no more than **20 minutes** on this section.

Enter your answers 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**.

You are advised to save your program at regular intervals.

0	1
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Write a program that converts binary strings into hexadecimal by completing the following 3 tasks:

### Task 1:

Write a function called `NibbleToHex` that receives a binary nibble and returns the value in hexadecimal.

### Task 2:

Create a program that inputs a string of 1's and 0's. ***There is no need to validate the input.*** The program should cut up the string into nibble size lengths and use the function `NibbleToHex` to display each of the hex digits.

Example of converting a nibble to hexadecimal:

For the string 1111, the hex number would be

$$1 \times 8 + 1 \times 4 + 1 \times 2 + 1 \times 1 = 15$$

Using the following conversion of A=10, B=11, C=12, D=13, E=14, F=15 the hexadecimal digit would be `F`.

### Task 3:

Test the program by:

- entering the number 1101
- then entering the number 10001111
- then entering the number 1110110111

### Evidence that you need to provide

Include the following in your Electronic Answer Document.

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1
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 Your PROGRAM SOURCE CODE for the function `NibbleToHex`.

[4 marks]

0	1
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2
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 Your main PROGRAM SOURCE CODE.

[8 marks]

0	1
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3
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 SCREEN CAPTURE(S) showing the result of tests carried out in Task 3.

[1 mark]