Section B

Enter your answers to **Section B** 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.

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0 1 A **palindromic number** is a number that is the same when written forwards or backwards. The first few palindromic numbers are therefore are 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 22, 33, 44, 55, 66, 77, 88, 99, 101, 111, 121, ...

A number is considered to be a **double base palindrome** if the number is palindromic in two bases.

For example $585_{10} = 1001001001_2$

Both are palindromic so 585 is a double base palindrome. **Figure 1** shows the first 8 double base palindromes along with the binary equivalents.

Figure 1

Denary	Binary
0	0
1	1
3	11
5	101
7	111
9	1001
33	100001
99	1100011

What you need to do

Write a program that will check to see if a number is a double base palindrome in base 10 and base 2. The program should be developed to list the first **twenty** double base palindromes displaying them in the same way as **Figure 1** above.

Evidence that you need to provide
Include the following in your Electronic Answer Document.

0 1 . 1 Your PROGRAM SOURCE CODE. **[12 marks]**

0 1 . 2 SCREEN CAPTURE(S) for the test showing the output of the first **twenty** double base palindromes. **[2 marks]**