Question 1

The holiday company needs to assign numbers to their most popular destinations.

Cities.txt	Numbered.txt
London Hong Kong Delhi Istanbul Tokyo Mumbai Mexico City New York City Rio de Janeiro Singapore	1 London 2 Hong Kong 3 Delhi 4 Istanbul 5 Tokyo 6 Mumbai 7 Mexico City 8 New York City 9 Rio de Janeiro 10 Singapore

The files **Q03c** and **Cities.txt** are provided.

Open the code named **Q03c** in the code editor.

Write a program to implement these requirements.

For all lines in the **Cities.txt** file, the code must:

- read the line
- append a line number and a space to the front
- write the new line to a **Numbered.txt** file
- print the line to the display

You must use the structure given in file **Q03c** to complete the program.
Do not add further functionality.

Save your amended code as **Q03cFINISHED** with the correct file extension for the programming language.

(7)

Question 2

Write a program to determine a discount based on an amount entered.

The program should:

- allow the user to input total spend
- display the output message based on the total spend entered.

Total spend	Text output message
More than 300	Discount is 10%
More than 0	No discount
All other input	Invalid input

No validation of input is required.

Save your amended code as **Q05bFINISHED** with the correct file extension for the programming language.

(5)

Question 3

Open the file named **Q06** in the code editor.

In file **Q06**, the names and years of birth of artists are stored in a 2-dimensional data structure.

Labels for their work need to be created by joining the first letter of their last name, the first letter of their first name and their year of birth.

For example, a label for (*'Andy', 'Warhol', 1928*) would be *'WA1928'*.

Write a program to:

- process each artist to create a label
- store all the labels in the data structure named 'theLabels'
- display the labels for all the artists
- find and display the name and year of birth of the youngest artist.

Your program should function correctly, even if 'theArtists' data structure has more, fewer, or different artists.

You **must** use the data structures in file **Q06**.

Save your amended code as **Q06FINISHED** with the correct file extension for the programming language.

Question 4

Carlos wants you to create a **guess the animal** game.

Open **Q06** in the code editor.

The code contains an array of animals.

It also contains a function that randomly selects an animal from the array. This is the secret word the user needs to guess.

Carlos wants the program to:

- generate the number of attempts the user has to guess the secret word.
  The maximum number of attempts is the length of the secret word +3. For example, the user has 8 attempts to guess when the secret word is **tiger**
- keep track of letters from incorrect attempts that are in the secret word and those that are not. There should be no duplicated letters
- display a message telling the user:
  - the number of letters in the secret word
  - how many attempts they have left
- force the user to input a word that is the same length as the secret word
- check whether the input word matches the secret word:
  - if the words match then a message that includes the secret word and the number of attempts taken to guess it is displayed
  - if the words do not match then:
    - letters from the attempt that appear in the secret word should be added to the correct letters store
    - letters from the attempt that do not appear in the secret word should be added to the wrong letters store
    - the contents of the correct and wrong letter stores are displayed
- allow the user another attempt until they have guessed the word or have run out of attempts
- display a message telling the user the game is over including the random word if the maximum attempts have been taken and the word has not been guessed.