Assessment 5: (total 12 marks)

Use online compiler (https://www.onlinegdb.com/online_c_compiler#).

Make sure to save your code to avoid the risk of losing your work.

Exercise 1: **(6 marks)**

Write a C program that finds the maximum element in each row of the following 3x4 matrix using pointers:

98	79	241	39
67	128	5	87
10	163	55	201

Your code must contain the following components:

1. Declare and initialise a 3x4 array with the above mentioned values.
   (0.5 marks)
2. Create a function **PrintMatrix** that takes a pointer to a 3x4 matrix as a parameter and prints the matrix.
   (1.5 marks)
3. Create a function **FindMaxEachRow** that takes a pointer to a 3x4 matrix and a pointer to 1D array to store the maximum element in each row.
   The function should find and store the maximum element by processing arrays with pointers.
   (2.5 marks)
4. Create a function **PrintMax** that takes an array of maximum elements and prints them.
   (1.5 marks)

Exercise 2: **(6 marks)**

Write a C program that concatenates two strings input by the user **without** using <string.h> header.

Your code must contain the following components:

1. Dynamically allocate memory for two strings (named *firstname* and *surname*). Ask the user to input their *firstname* followed by entering their *surname*.

   (2 marks)

2. Find the length of *firstname* using pointer. Print the length.

   (1 marks)

3. Concatenate the 2nd string (*surname*) in the first string (*firstname*) using pointers and then print the updated first string (*firstname*).
   Don't forget to add a space between *firstname* and *surname*.

   (3 marks)

Expected output:

```
Enter firstname: Sophia
Enter surname: Bano
Your fullname is: Sophia Bano
```

---- end of assessment exercises ----