Exercise 2: Connect Excel VBA to ChatGPT API

## Part 1: Setup

1. Open the Excel workbook.
2. Press Alt + F11 to open the VBA Editor.
3. Note the modules already in place

### Requirements:

* Make sure you have the JsonConverter.bas module imported.
* From within the VBA editor, import ChatGPT.bas
* Make sure the Microsoft Scripting Runtime reference is enabled (for Dictionaries).

How to Enable Microsoft Scripting Runtime in VBA

1. Open your Excel workbook (or Word/Access project where your VBA code is).
2. Open the VBA Editor:
   * Press ALT + F11 on your keyboard.
   * This opens the Visual Basic for Applications (VBA) editor.
3. Open the References Window:
   * In the VBA editor, go to the menu:  
     Tools ➔ References...
4. Find Microsoft Scripting Runtime:
   * In the References dialog box, scroll down the list until you find:  
     Microsoft Scripting Runtime (scrrun.dll)

# Part 2: Marco 1, Ask Chat GPT a Question

1. Enter a prompt in to cell C1
2. Run the Macro (Developer | Macros | AskChatGPT | Run)

The Macro will take the prompt in Sheet1 | C1 and using the ChatGPT API ask this prompt to Chat GPT. The Macro the takes the response, parses it and displays Chat GPT’s response in Sheet1 | C2

Challenge:

* Step in to the Macro, what are the steps that it takes?
* Add a Watch to the response that comes back from ChatGPT. What other data is provided by the API?

# Part 3:  Working with a data range

1. Switch to Data sheet and you’ll see a range of numbers in A1:A10
2. Run the Macro (Developer | Macros | PredictNextNumber | Run)

The Macro will take the range of numbers in Data | A1:A10, then pass this to the ChatGPT API along with the prompt in Data | C1.  
As an example, Chat GPT is asked to predict the next most probable number.

Challenge:

* Chat GPT provides an explanation too, how might we change the prompt so we only get a number?
* This is a simplistic example, what better prompts could we use to better analyse this number set?
* Based on this approach, how might you apply this approach within your daily role?

Part 4: Use Chat GPT to create a custom VBA Macro

Using ChatGPT, enter prompts to ask ChatGPT to create custom VBA macros, then install them using the steps leaned in the previous Parts

Here’s some example prompts:

1. "Create a macro that highlights all cells in column A that contain the word 'Overdue'."
2. "Write a VBA macro to automatically add today's date to cell A1 when the workbook opens."
3. "Make a macro that copies data from Sheet1 to a new sheet and removes any blank rows."
4. "Write a macro that sorts data in Sheet1 by column B in descending order."

## Key Skills practiced

* How to write clear prompts for ChatGPT
* How to paste and organize code in VBA
* How to test, debug, and modify simple macros
* How to use AI as a real-time coding assistant
* How to use an AI tool to create VBA macros for Excel