



生成式 AI：文字與圖像生成的原理與實務

【特別篇】

# Vibe Coding

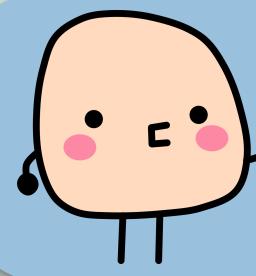


蔡炎龍  
政治大學應用數學系



01.

Vibe Coding 是什麼



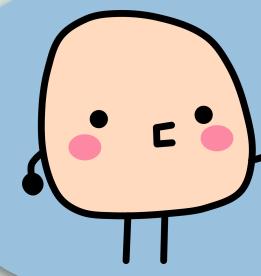
# Vibe Coding 是什麼呢？

 Andrej Karpathy   
@karpathy

There's a new kind of coding I call "vibe coding", where you fully give in to the vibes, embrace exponentials, and forget that the code even exists. It's possible because the LLMs (e.g. Cursor Composer w Sonnet) are getting too good. Also I just talk to Composer with SuperWhisper so I barely even touch the keyboard. I ask for the dumbest things like "decrease the padding on the sidebar by half" because I'm too lazy to find it. I "Accept All" always, I don't read the diffs anymore. When I get error messages I just copy paste them in with no comment, usually that fixes it. The code grows beyond my usual comprehension, I'd have to really read through it for a while. Sometimes the LLMs can't fix a bug so I just work around it or ask for random changes until it goes away. It's not too bad for throwaway weekend projects, but still quite amusing. I'm building a project or webapp, but it's not really coding - I just see stuff, say stuff, run stuff, and copy paste stuff, and it mostly works.

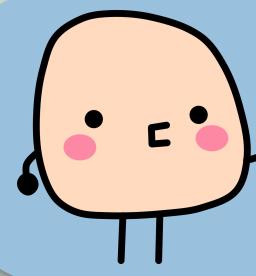
2025 年 2 月 Andrej Karpathy 在 X 的貼文，創了 Vibe Coding 這個新詞彙。





## 原版 Vibe Coding 全文 I

There's a new kind of coding I call "vibe coding", where you fully give in to the vibes, embrace exponentials, and **forget that the code even exists**. It's possible because the LLMs (e.g. Cursor Composer w Sonnet) are getting too good. Also I just talk to Composer with SuperWhisper so I barely even touch the keyboard. I ask for the dumbest things like "decrease the padding on the sidebar by half" because I'm too lazy to find it. I **"Accept All"** always, I **don't read the diffs** anymore.

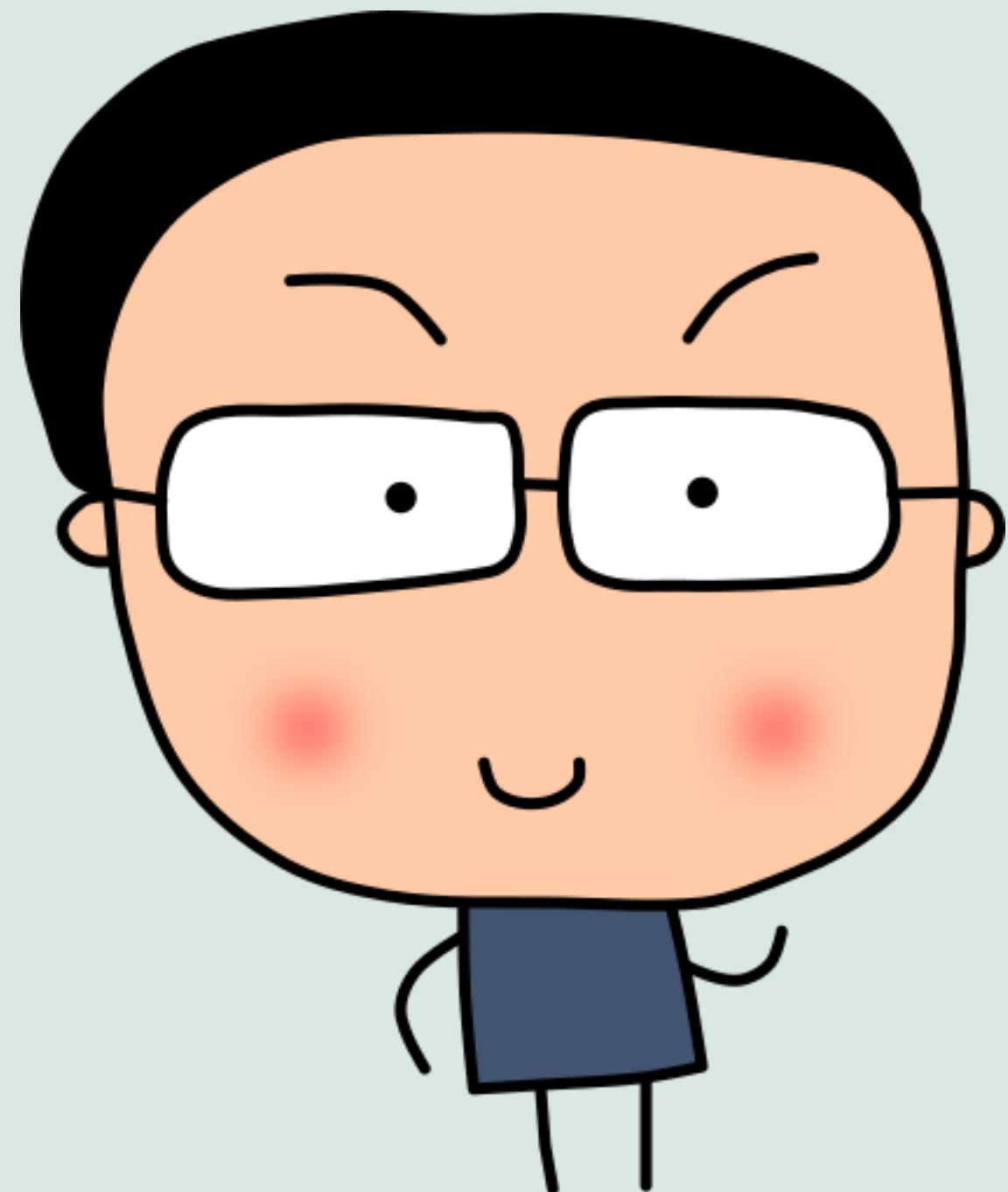


## 原版 Vibe Coding 全文 II

When I get error messages I just copy paste them in with no comment, usually that fixes it. The code grows beyond my usual comprehension, I'd have to really read through it for a while. Sometimes the LLMs can't fix a bug so I just work around it or ask for random changes until it goes away. It's not too bad for throwaway weekend projects, but still quite amusing. I'm building a project or webapp, but it's not really coding - I just see stuff, say stuff, run stuff, and copy paste stuff, and it mostly works.



# Vibe Coding 重點

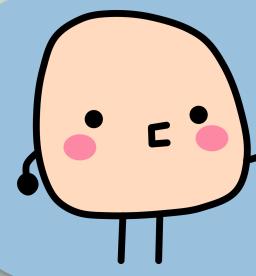


- ① 忘了有程式碼這件事
- ② 不要幫 AI 檢查程式碼
- ③ 有錯就叫 AI 改
- ④ 最高級的技巧是 Copy & Paste
- ⑤ 完全不看程式、不改程式



# Vibe Coding 並不是「AI 輔助寫程式」

**Vibe Coding  $\neq$  AI 輔助寫程式**



Vibe coding (也寫作 vibecoding) 是一個最近創造的術語，指的是通過告訴 AI 程式你想要什麼，讓它為你創建產品的編碼、製作網頁或開發應用程式。在 vibe coding 中，**程式設計師不需要理解程式碼如何或為何運作，且通常必須接受存在一定數量的錯誤和故障**。該詞的動詞形式是 vibe code。



# Vibe Coding 應該怎麼翻呢？

隨興程式設計法

擺爛程式程式設計法

要廢式程式設計

直覺流程式設計

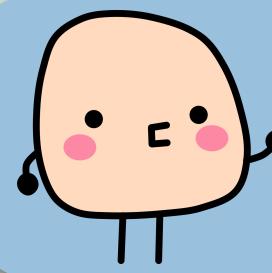




# Vibe Coding 適合什麼呢？

- 週末好玩的小專案 (Karpathy)
- 給自己使用, 出錯不會怎樣的小工具
- 試做的原型, 和程式設計師討論

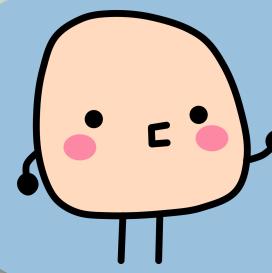




# Vibe Coding 什麼不適合呢？



- 要正式上線的程式 (所以不是有 Vibe Coding 老闆就可以 fire 掉工程師)
- 不檢查可能會出亂子的程式



# Andrej Karpathy – AGI is Still a Decade Away



<https://www.youtube.com/@DwarkeshPatel>



## Karpathy: 寫程式分三類

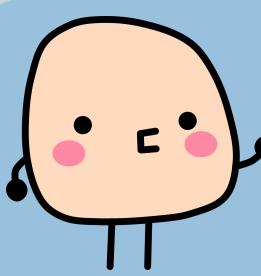
- ① 純手工、零 LLM 介入
- ② 程師設計師仍然是你所寫內容的架構師，  
LLM 會協助補完
- ③ Vibe Coding: 告訴電腦「嗨，請實作這個  
或那個」，按下 Enter，然後讓模型去做



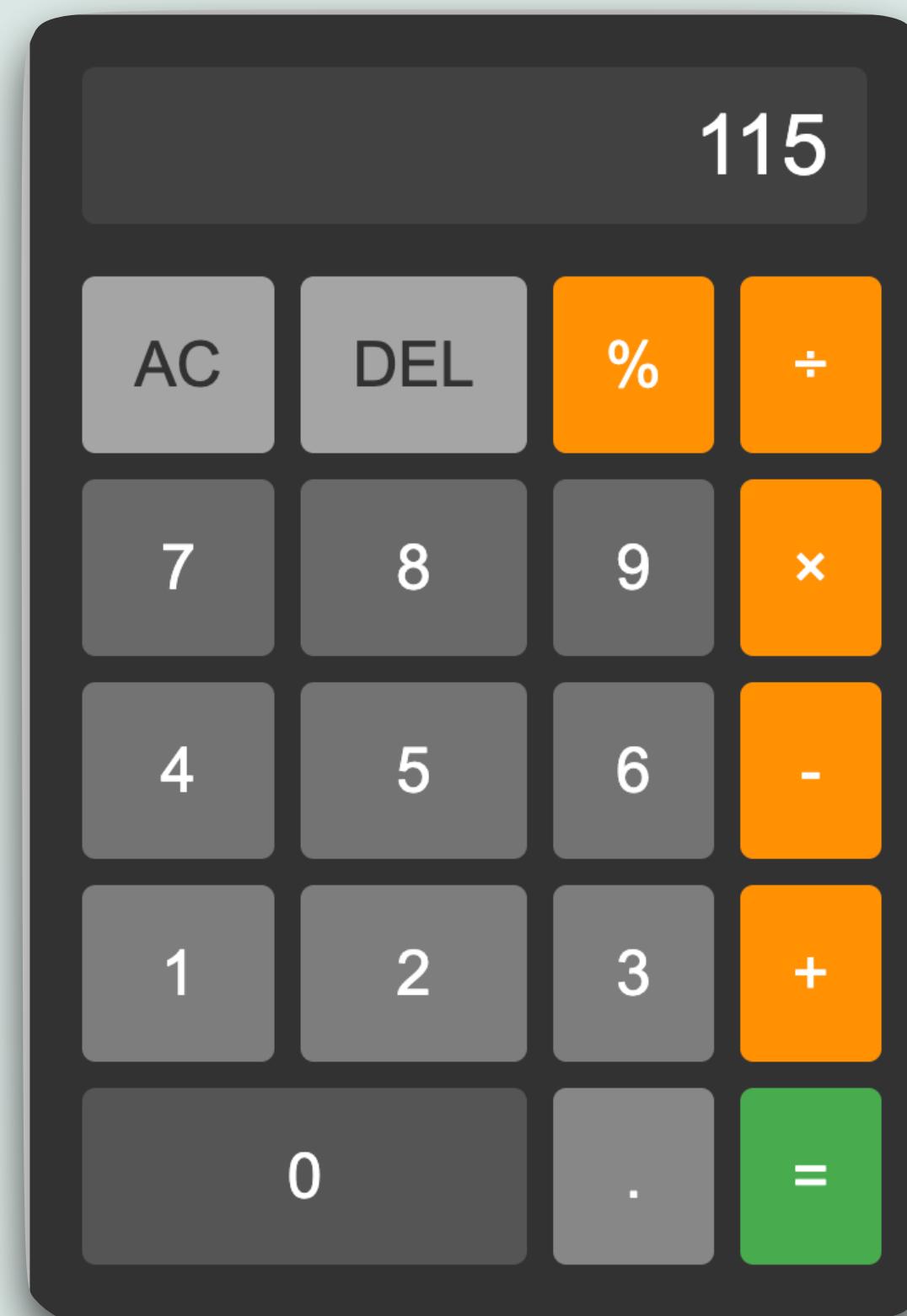


02.

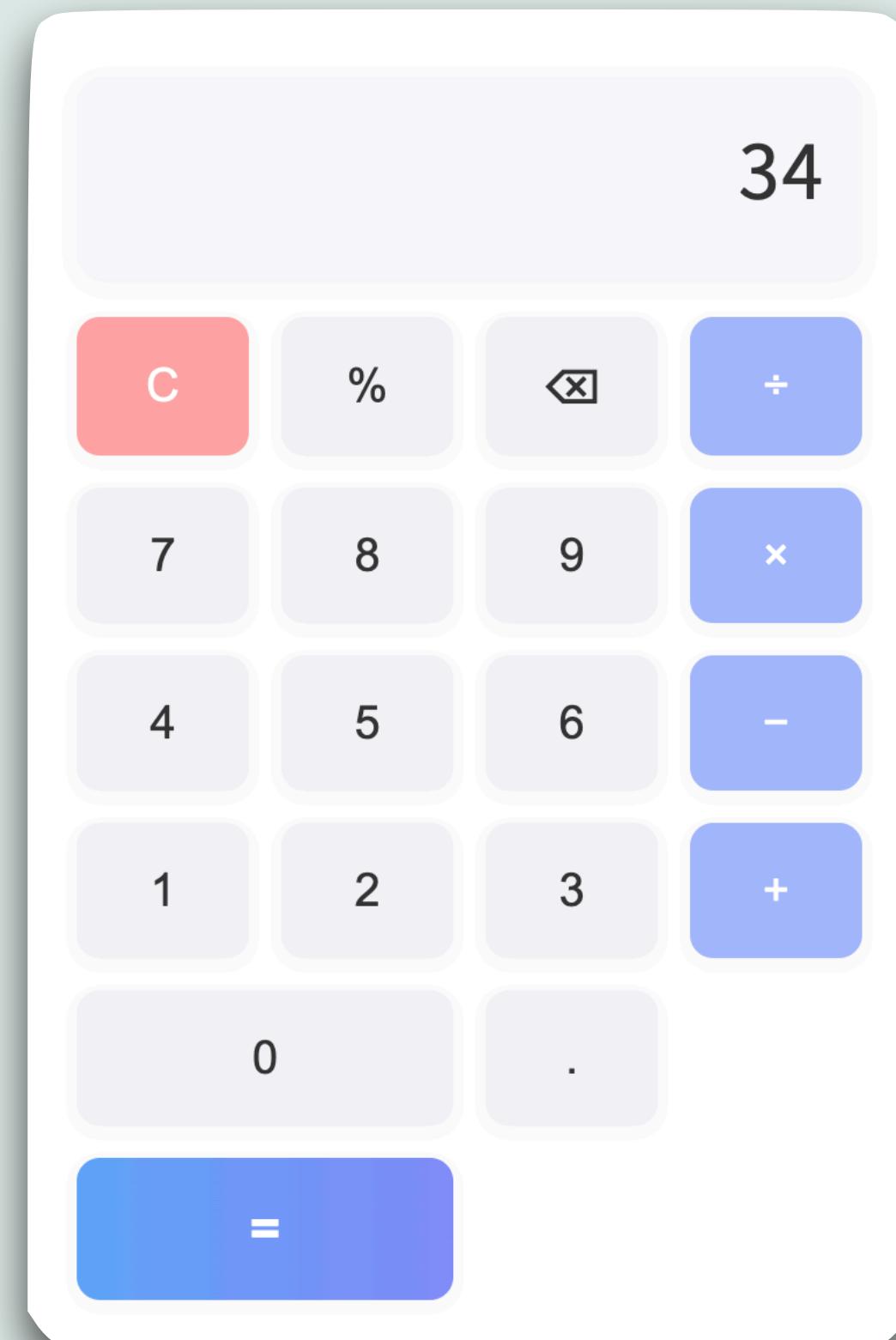
用什麼 Vibe Coding 呢？



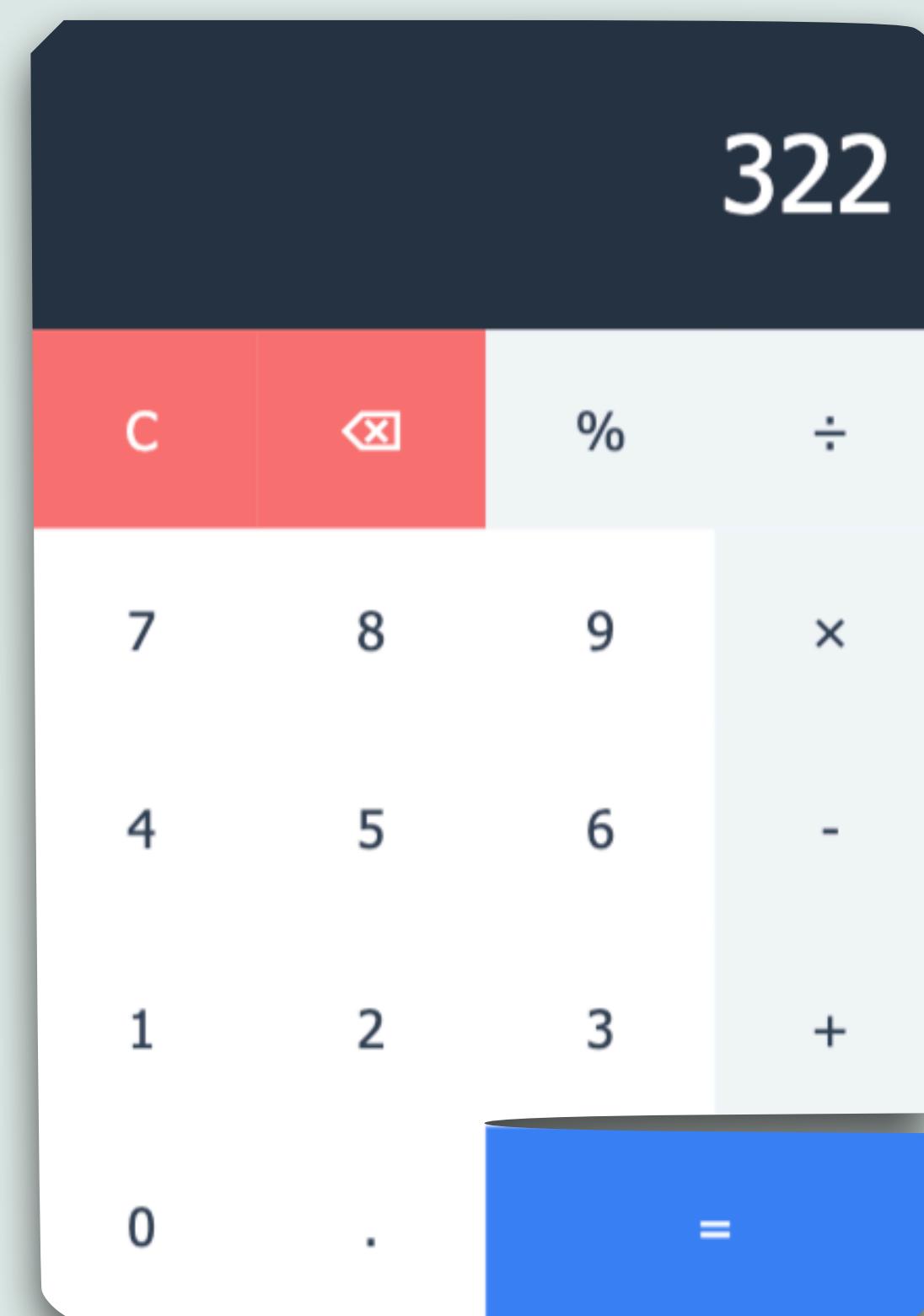
# 一般來說大家會推薦「專用」編輯器



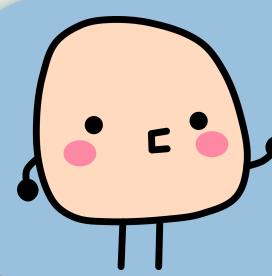
Windsurf



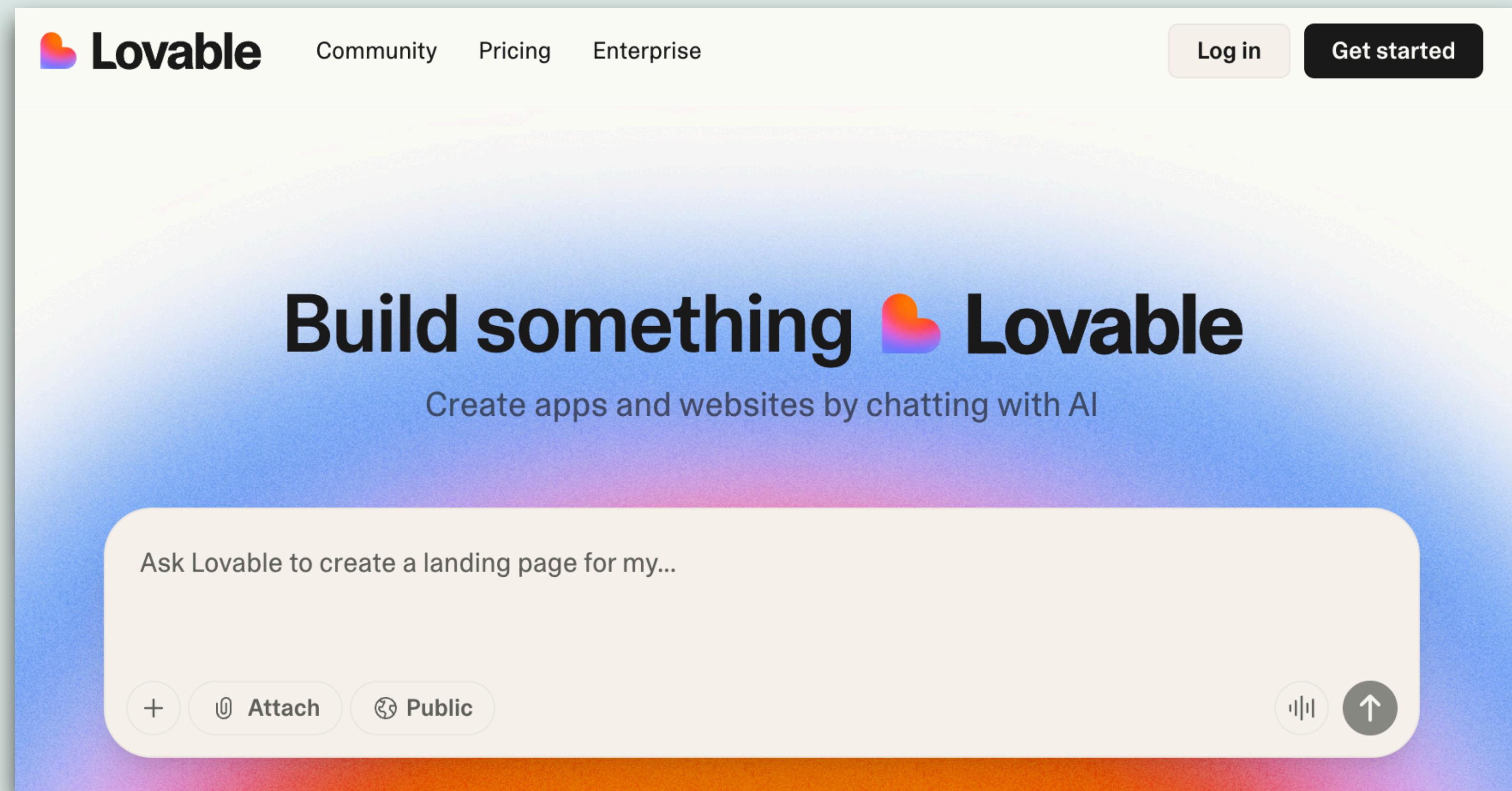
Cursor



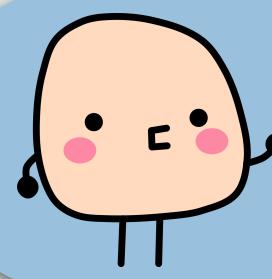
Canva



# 當然還有上次助教介紹的 Lovable



**<https://lovable.dev/>**

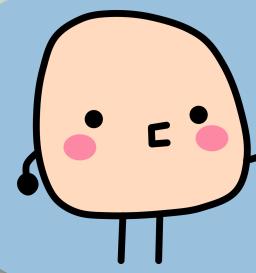


# 我們會用 Gemini, 因為...

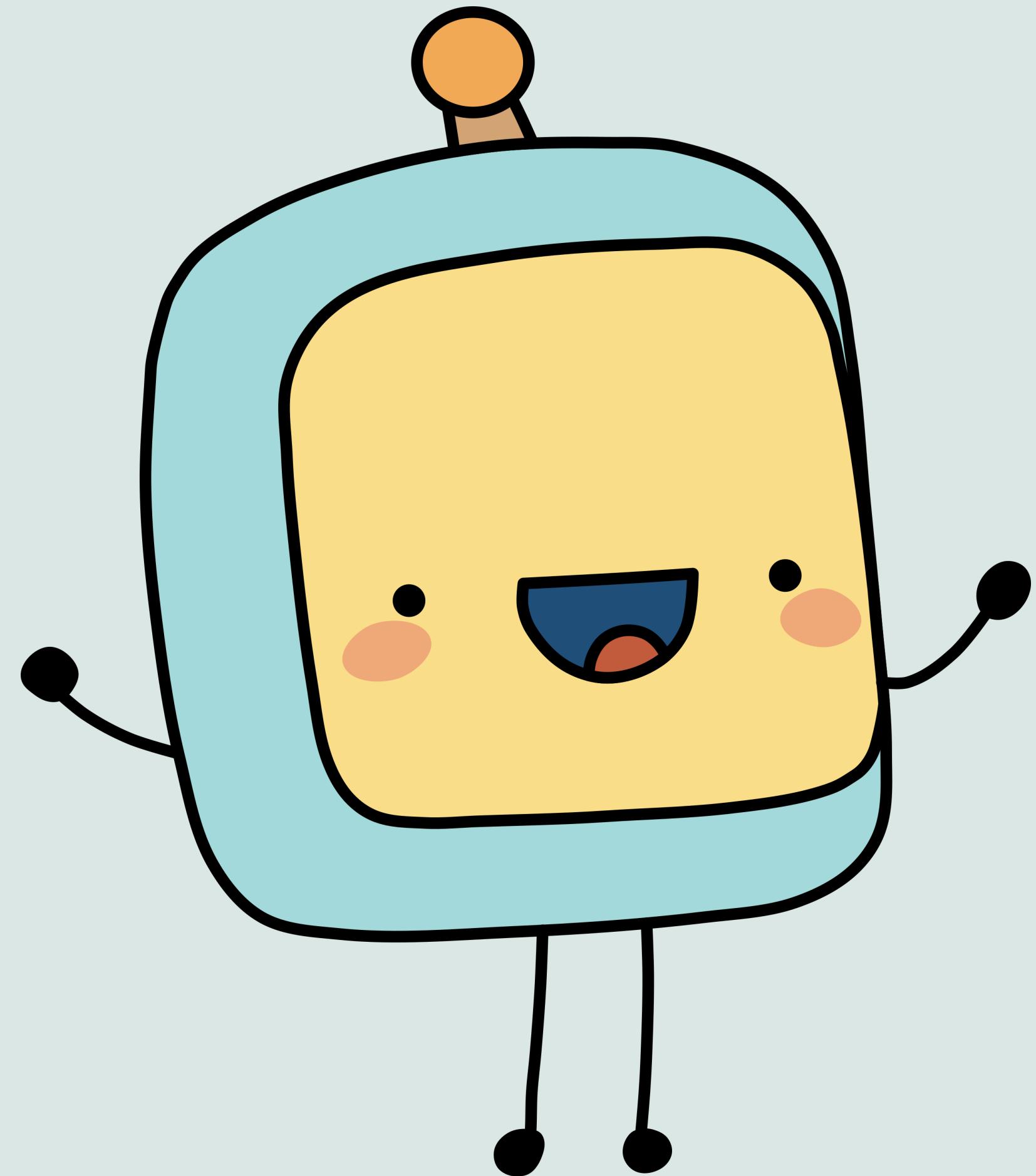
The screenshot shows a promotional banner for Google Gemini. At the top left is the Gemini logo (a colorful star-like icon) and the word "Gemini". At the top right is a menu icon (three horizontal lines). The main title is "Google Gemini : 學生可免費使用 Pro 方案" (Google Gemini : Students can get free Pro plan). Below the title is a description: "免費使用 1 年。盡情對話、上傳圖片及生成測驗，使用 2.5 Pro 模型、Deep Research 和語音摘要功能還可享有更高權限，外加 2 TB 儲存空間。學生獨享，優惠期限：2025年12月9日。" (Free for 1 year. Chat, upload images, and generate tests, use 2.5 Pro model, Deep Research, and voice summary features, plus 2 TB storage. Exclusive for students, valid until December 9, 2025.). At the bottom are two buttons: a blue rounded rectangle with "取得優惠" (Get discount) and a smaller white button with "適用相關條款" (Apply terms and conditions).

取得優惠

適用相關條款



# 從三個角度帶大家 Vibe Coding!



- ① 寫一個在 Colab 上跑的 Python 程式
- ② 寫一個可以在瀏覽器上跑的程式
- ③ 用 Apps Script 配合 Google 服務寫一個應用



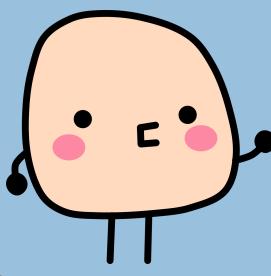
03.  
在 Colab 寫個  
Python 程式



## 範例: RGB 顏色選色



寫一個在 Colab 上執行的 Python 程式: 讓使用者可以拉三個數值滑桿, 調整 RGB 的強度, 用一個色塊顯示相對的顏色, 並且顯示顏色的 HEX: #xxxxxx, 讓使用者可以直接 copy 使用。



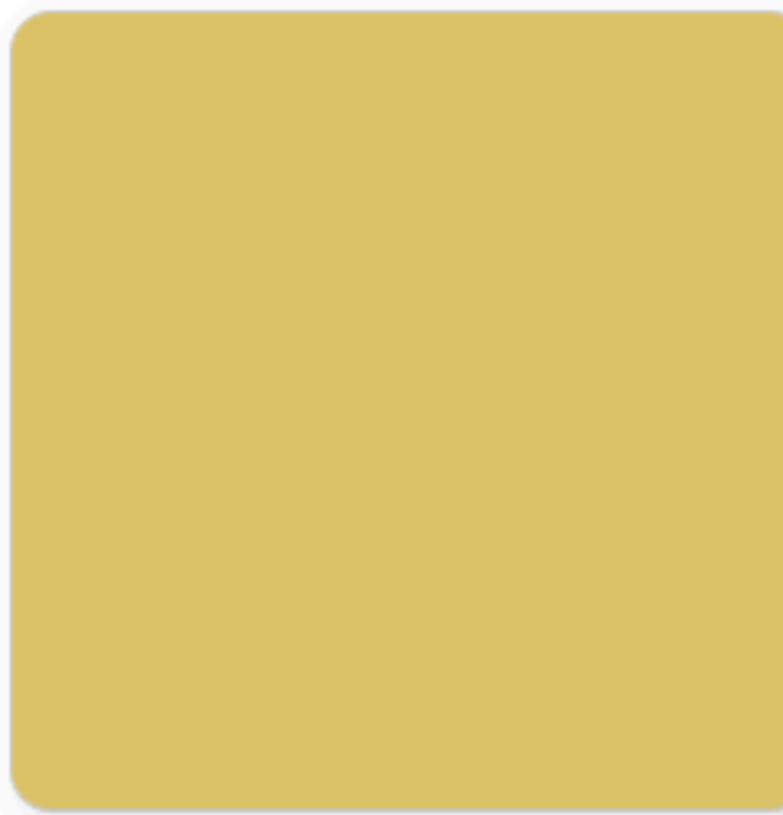
# 冒險01

## ### RGB 顏色選擇器

Red (紅):  219

Green (綠):  194

Blue (藍):  103



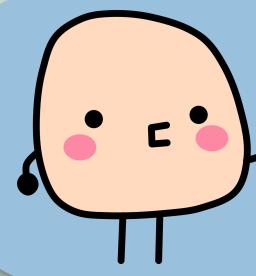
HEX: #DBC267

RGB: (219, 194, 103)



04.

寫個網頁 App



# 網頁程式



HTML

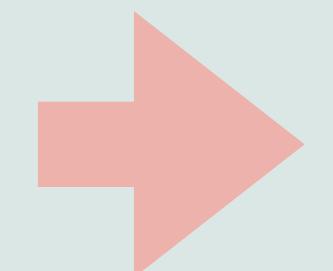
網頁的基本內容

CSS

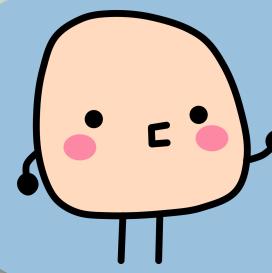
網頁的排版

JavaScript

可在網頁執行的語言



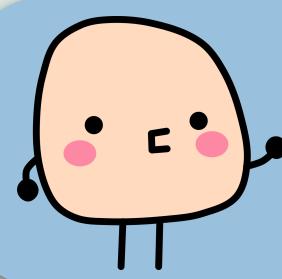
可以寫成一個單一的 HTML 檔



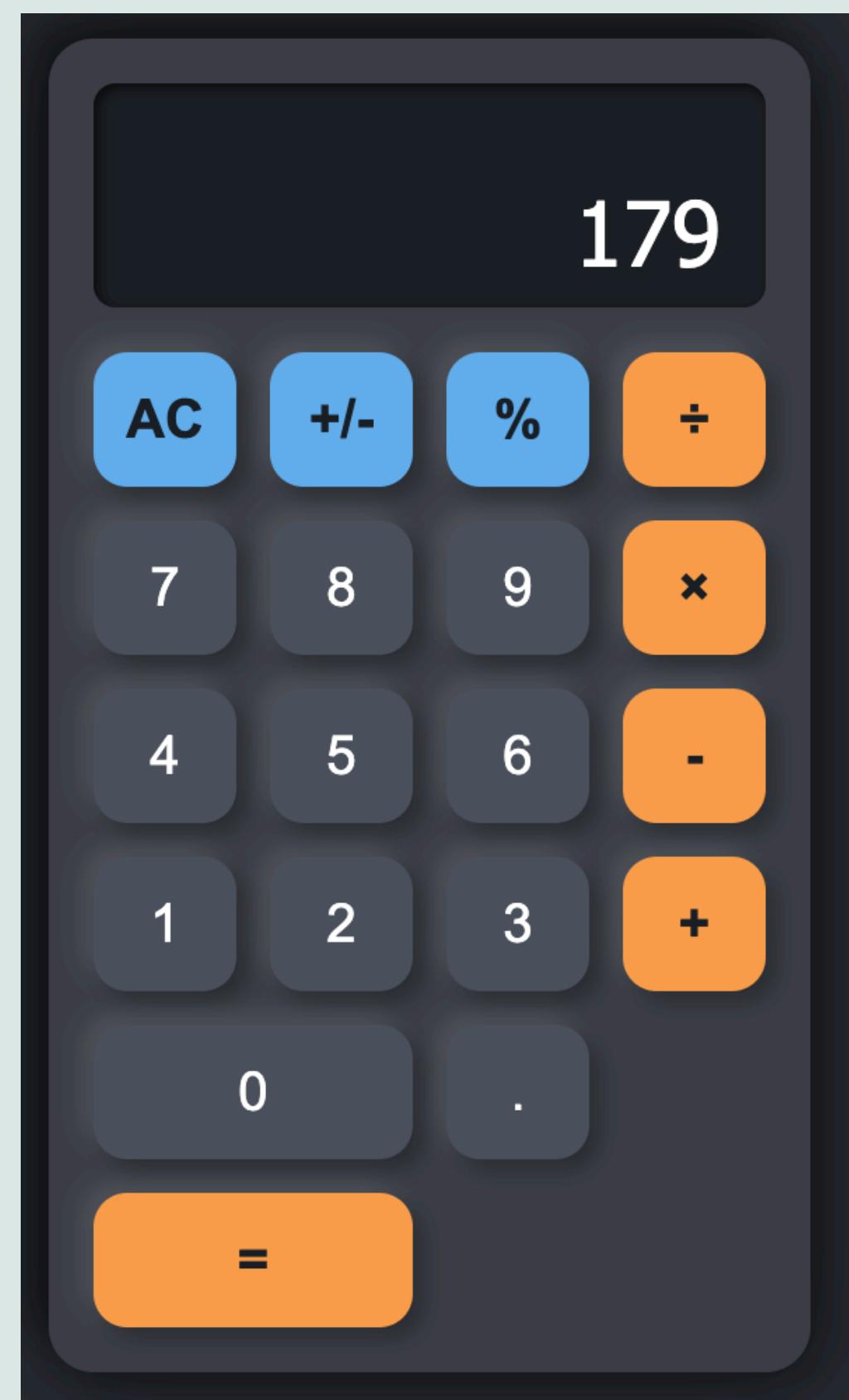
## 範例: RGB 顏色選色

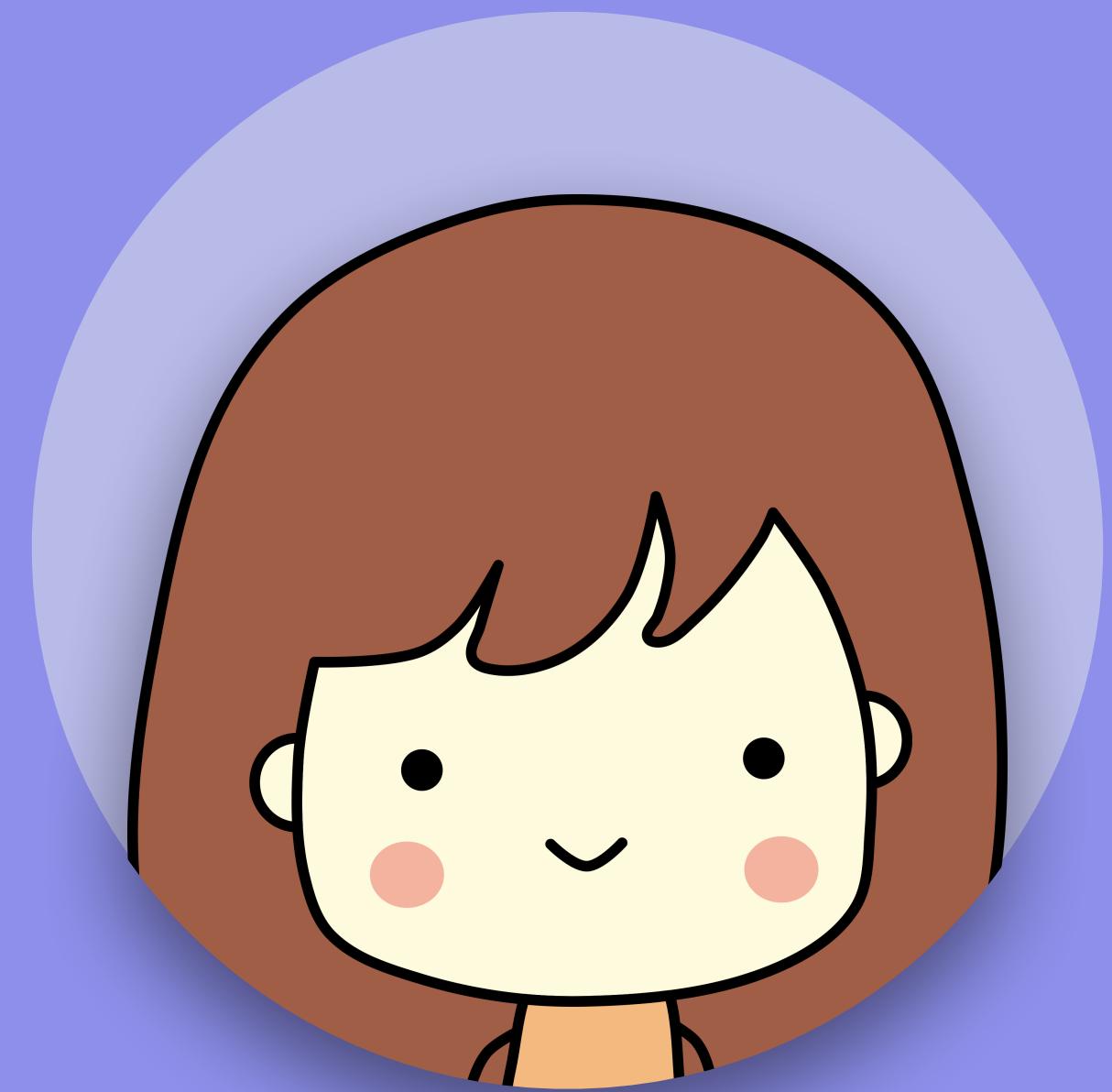


使用 HTML + CSS + JavaScript, 寫一個單一的 HTML 檔: 做一個簡單、但看起來質感很高的計算機。



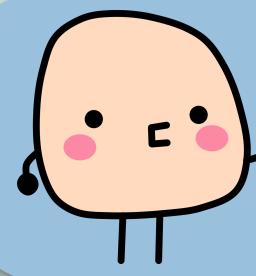
可以使用看看有沒有問題





05.

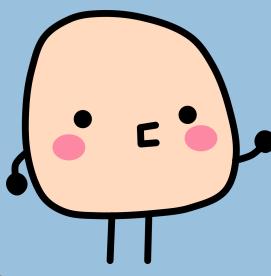
# Apps Script



# 什麼是 Apps Script?

**Google Apps Script (GAS)** 是一個基於 **JavaScript** 的雲端腳本語言, 它讓您能夠在 **Google 生態系統** 中建立輕量級的應用程式和自動化流程, 可以做比說:

- 試算表功能擴展: 可以新增自訂選單、按鈕或自訂函式。
- 自動化流程: 例如每天定時發送郵件、當表單提交時自動在日曆上建立事件。
- 網路應用程式: 可以用來建立簡單的網頁介面, 作為數據輸入或顯示的工具。



## 直接的連結



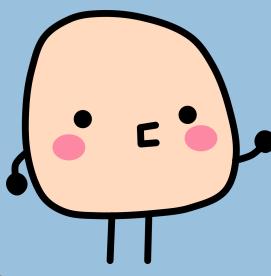
<https://script.google.com/>



## 範例: 計算字數的 web app



我想用 Google Apps Script 打造一個有型、深色模式的網頁工具: 它只有一個大大的輸入框, 當我點擊按鈕時, 可以立刻計算我輸入了多少個詞彙。



# 打造出來的成品

**Vibe Coding: 詞彙計數器 (Web App 模式)**

這是 Apps Script 託管的網頁應用程式。

在這裡輸入您的文字...

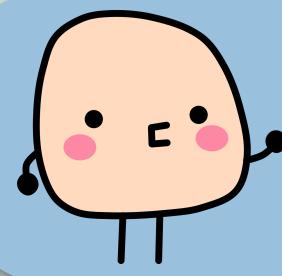
輸入即時更新，無需點擊按鈕

當前詞彙總數: 0 個  
(計算規則：非空字串，以空格、換行分隔)

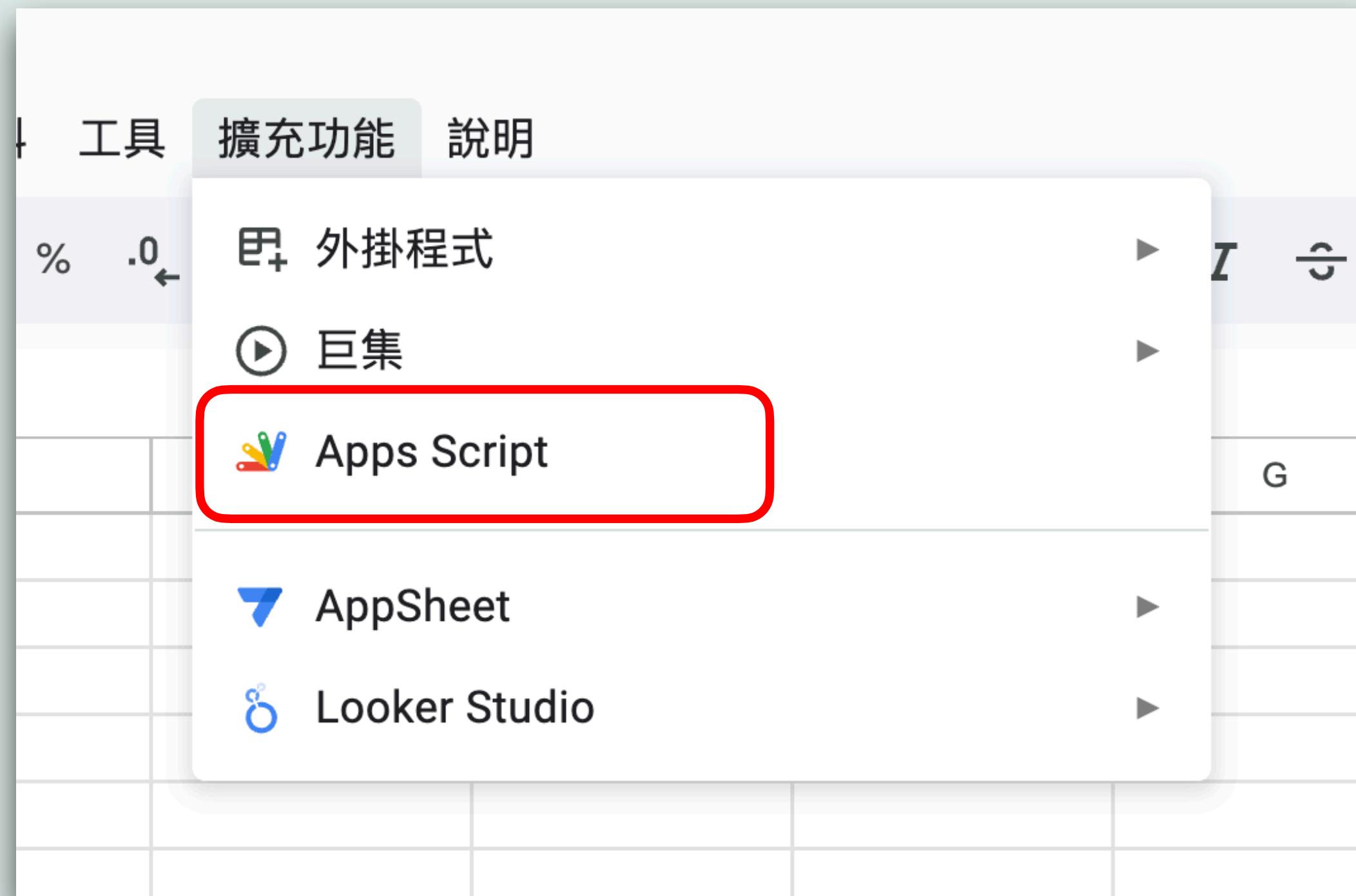
部署

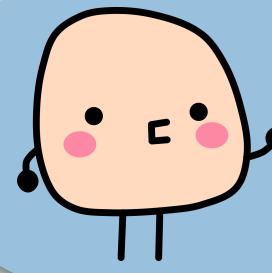
>

網路應用程式



# 配合 Google Spreadsheet

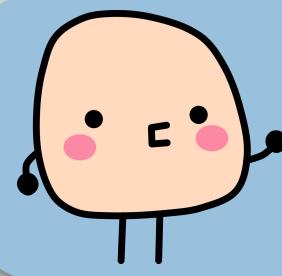




## 範例: 在儲存格加入日期



在 Spreadsheet 目前的儲存格, 希望在選單中按加入日期, 就會在那個儲存格加入今天的日期。



## Q & A

