



電腦科學1第一課

課程簡介

Computer Science 1 - Lesson 1
Introduction

編程

Programming



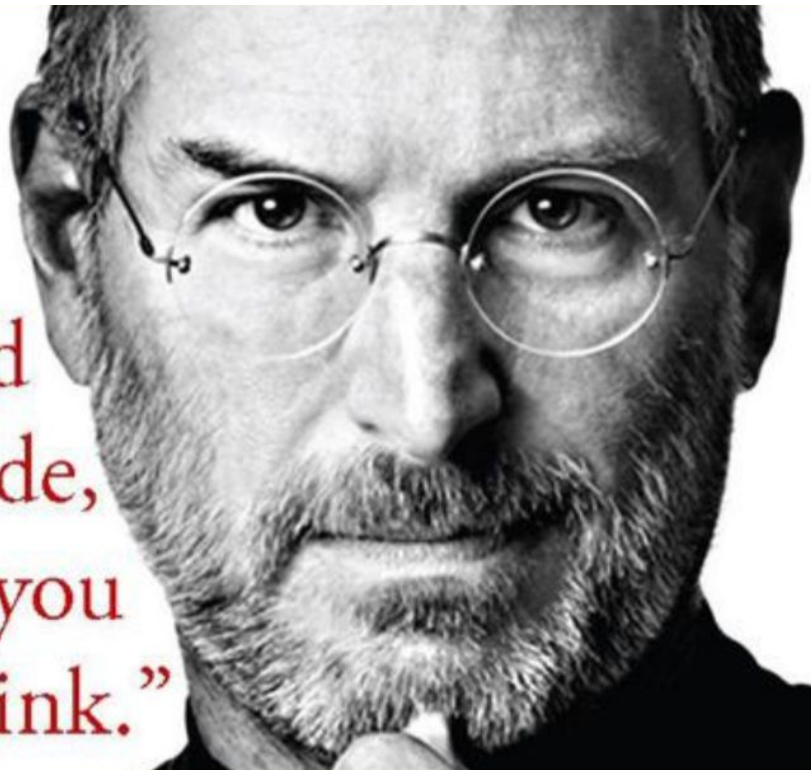
為什麼要學習程式設計

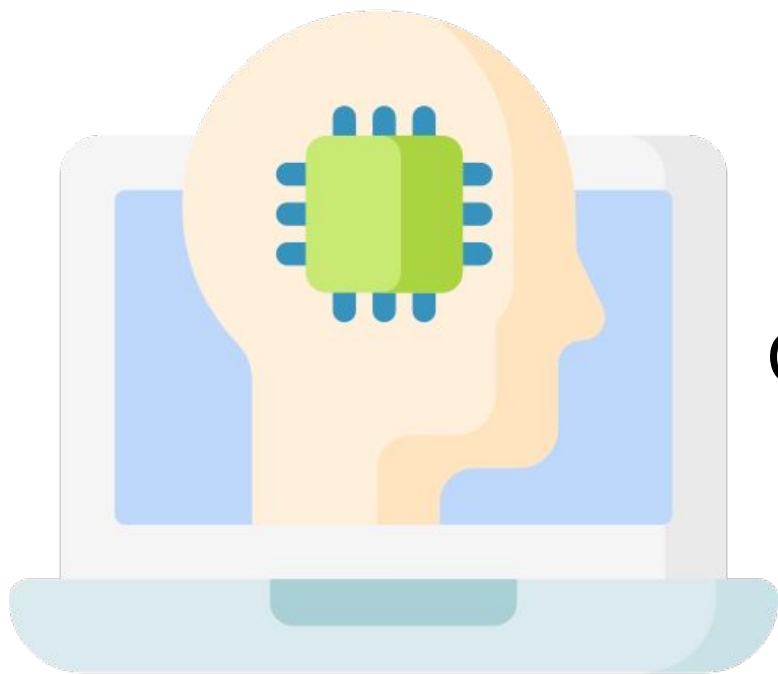
Why learn programming

Steve Jobs

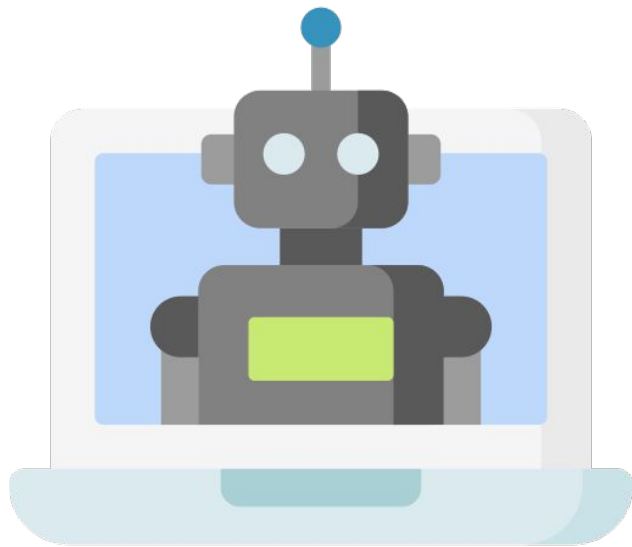
1955-2011

“Everyone should
learn how to code,
it teaches you
how to think.”

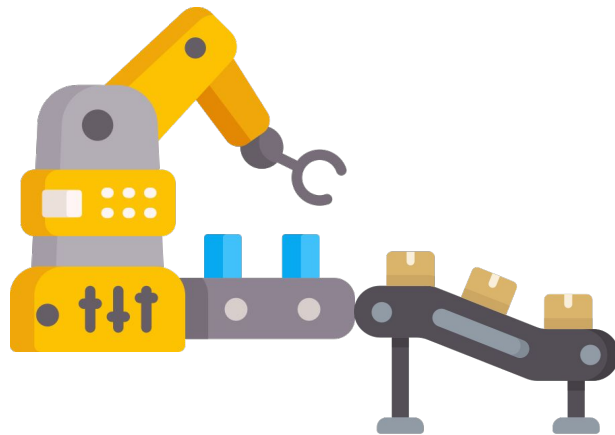




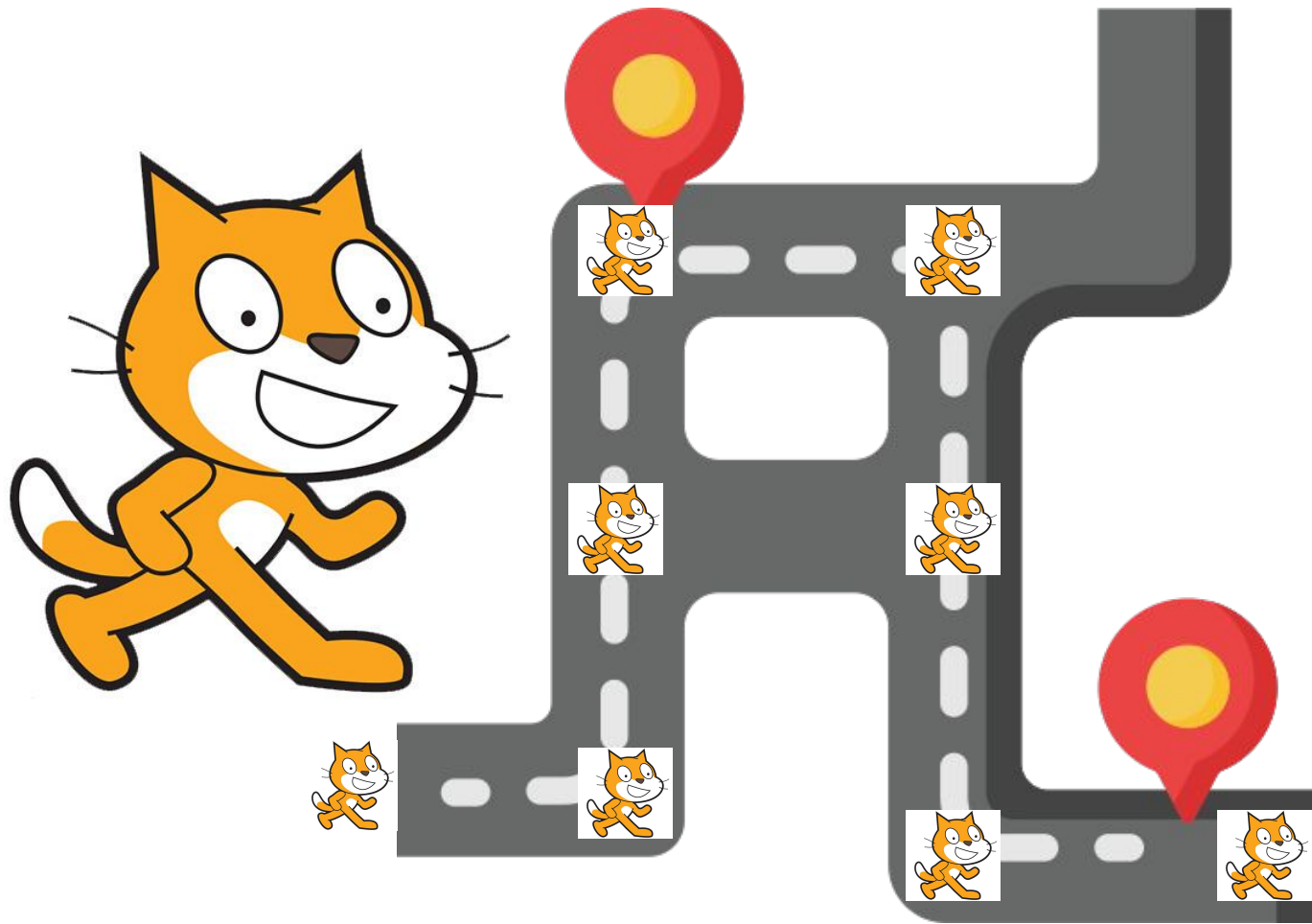
運算思維 Computational Thinking



讓電腦代為解決問題
Let the computer solve the problem

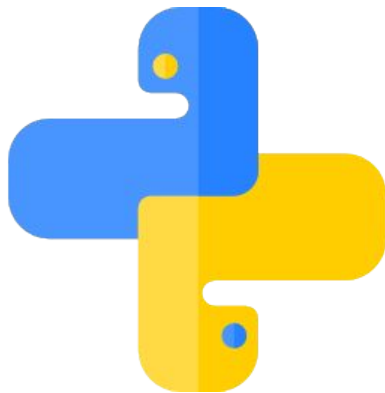


move.left()
move.right()
move.up()
move.down()



程式語言

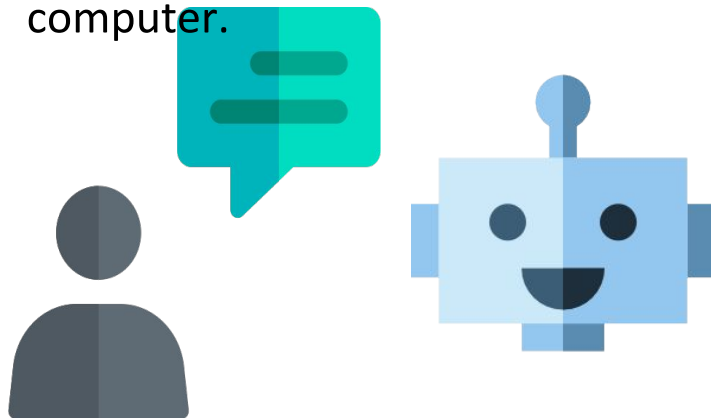
Programming Language





用來向電腦發出指令。

Used to give instructions to the computer.



Python



Guido van Rossum

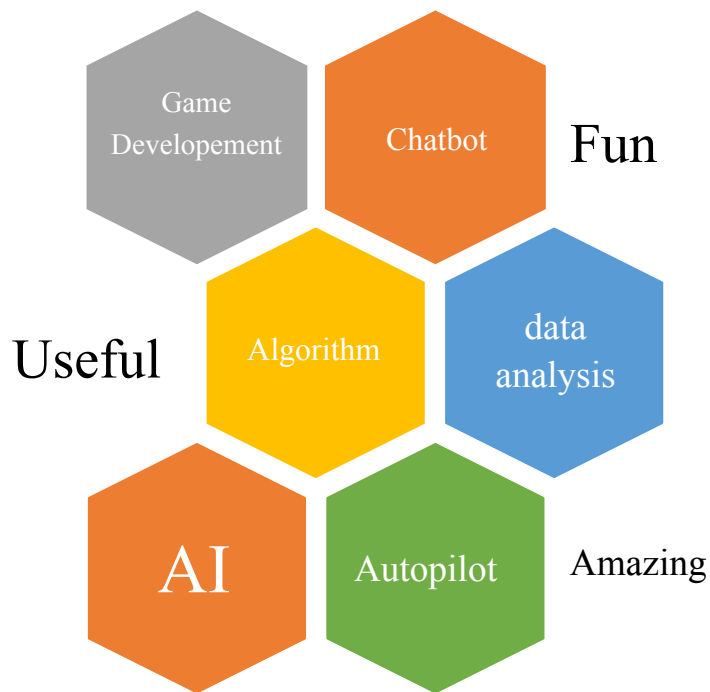


Guido van Rossum at the [Dropbox](#) headquarters in 2014

Born	31 January 1956 (age 63) ^[1] Haarlem, Netherlands ^{[2][3]}
Residence	Belmont, California, U.S.
Nationality	Dutch
Alma mater	University of Amsterdam
Occupation	Computer programmer, author
Employer	Dropbox ^[4]
Known for	Creating the Python programming language
Spouse(s)	Kim Knapp (m. 2000)
Children	Orlijn Michiel Knapp-van Rossum ^[5]
Awards	Award for the Advancement of Free Software (2001)
Website	gvanrossum.github.io ^[6]

為什麼學Python程式設計語言？

Why learn Python programming language?



為什麼學Python程式設計語言？

Why learn Python programming language?

簡單易學，寫代碼就像寫英語一樣容易

Easy to learn, writing code is as easy as writing English



英語語法：

Hero moves right.

Python語法：hero.moveRight()

哪些科技公司或產品正在使用Python?

Which tech companies or products are using Python?



Source: https://en.wikipedia.org/wiki/List_of_Python_software

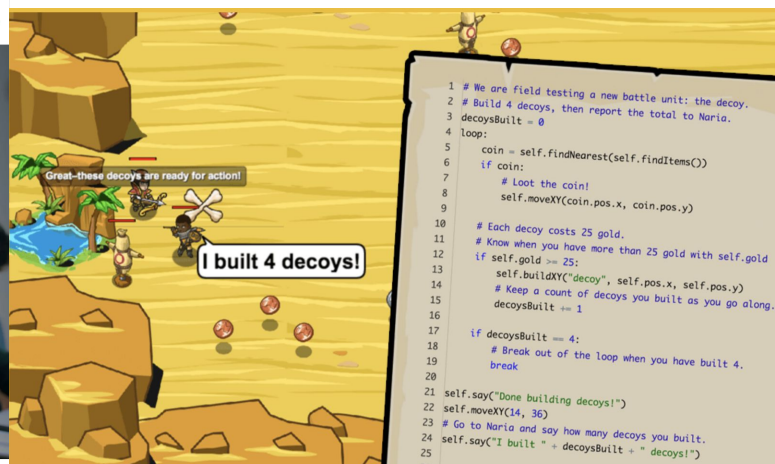
CODE COMBAT

CODE COMBAT

About Impact My Courses My Account English (US)

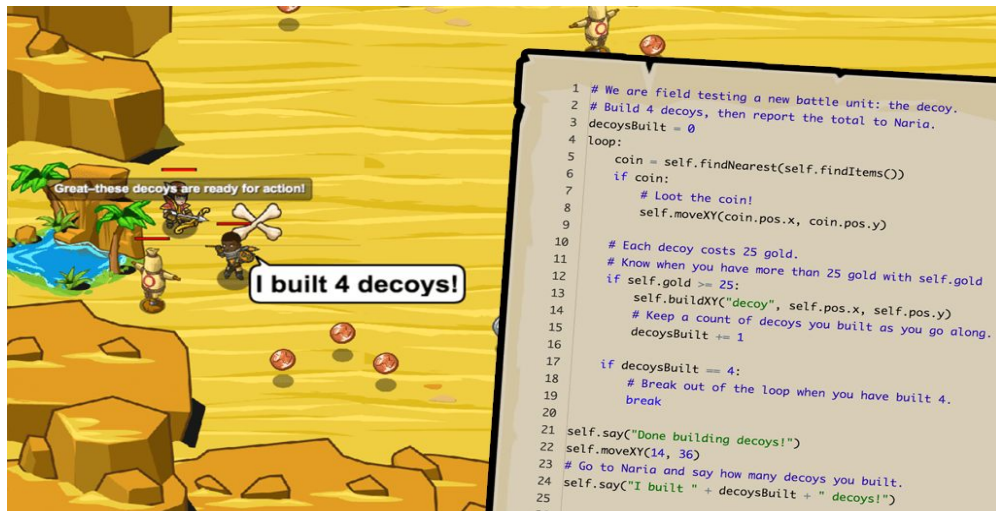
The most engaging way to learn computer science

[GO TO MY COURSES](#)



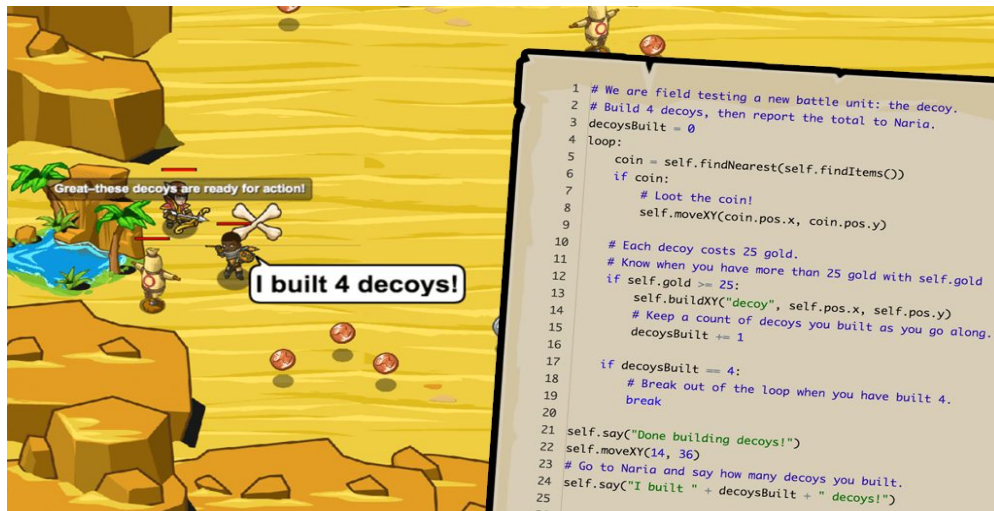
教學平臺介紹 Introduction to Learning Platform

- 美國大學理事會認證的中小學編程教學平臺
- CodeCombat電腦科學一級至六級, 涵蓋小四到中六的編程學習內容
- 教授編程語言: Python, JavaScript
- 支持中英文
- 學習環境:
 - 基於網頁, 遊戲化的學習模式
 - 推薦電腦記憶體4G以上
 - 推薦使用Google Chrome/ Edge
 - 網路速度1Mbps以上



教學平臺介紹 Introduction to Learning Platform

- An e-learning platform endorsed by US College Board to teach programming at primary and secondary schools
- Coverage: CodeCombat Computer Science program has 6 modules, covering the programming content of Primary 4 to Secondary 6
- Programming languages: Python, JavaScript
- Supports both Chinese and English
- Learning environment:
 - Web-based & gamified
 - Recommended RAM: 4G or above
 - Suggest using Google Chrome/ Edge
 - Internet speed: 1Mbps or above



CODE COMBAT



電腦科學

Computer Science

遊戲開發

Game Development

網頁開發

Web Development

學習目標

Learning Objective



使用 Google Chrome / Safari / Edge 等瀏覽器進入老師提供的CodeCombat 註冊頁：
例如：https://codecombat.com/students?_cc=CLASSCODE

Use Google Chrome / Safari / Edge browser to view CodeCombat registration page:
E.g.: https://codecombat.com/students?_cc=CLASSCODE



Create Account

Choose your account type:

Teacher

**Teach programming using
CodeCombat!**

- Set up your class
- Access Course Guides
- View student progress

Sign up as a Teacher

Student

**Learn to program while
playing an engaging game!**

- Play with your class
- Compete in arenas
- Choose your hero!

Have your Class Code ready!

Sign up as a Student

Individuals & Parents

For players learning to code outside of a class. Parents should sign up for an account here.

Sign up as an Individual

Already have an account? [Sign in](#)

Create Student Account

Enter your Class Code

Ask your teacher for your Class Code.

Not part of a class? Create an [Individual Account](#) instead.

Back

Continue

Already have an account? [Sign in](#)

Create Student Account

填入老師給你的班級碼。
如果填寫正確，會顯示老師的
名字和班級名稱。
確認資訊無誤後，點擊右下角
“繼續”。

Enter your Class Code

Class Code



You're about to join:

Class Name

Teacher Name

Fill in the class code given by your teacher.
If filled in correctly, the teacher's name and
class name will be displayed.
After confirming that the information is correct,
click "Continue" in the lower right corner.

Back

Continue

Already have an account? [Sign in](#)

Create Student Account

First Name

Chan Tai Man (Fullname)

Last Initial

C

Email Address

optional

abc-19200021@abc.edu.hk

Username

abc-19200021

✔ Username available!

Password

.....

or



Sign in with Google



Continue with Facebook

Create Account

Already have an account? [Sign in](#)

填入你的資料。

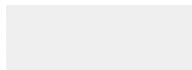
- 填入全名 (請填寫真名, 方便教學管理)
- 電郵地址 (用於找回密码)
- 用戶名 (用於帳號登錄)
- 密碼 (老師可以修改密碼)

Fill in your information.

- Fill in the full name (please fill in the real name for better management)
- Email address (for password recovery)
- User name (for account login)
- Password (teacher can reset password)

Create Student Account

Successfully connected with:



Next

Username

abc-19200021

✓ Username available!

- ☒ Receive announcements about new CodeCombat levels and features!

Back

Create Account

Already have an account? [Sign in](#)

Create Student Account

Select Your Starting Hero:

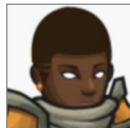
You can always change your hero later.



Hattori



Okar



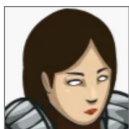
Arryn



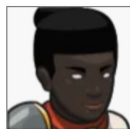
Gordon



Alejandro



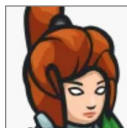
Illia



Ida



Tharin



Anya

Next



Create Student Account

Account Created!

Write down your information so that you don't forget it. Your teacher can also help you reset your password at any time.

Write this down:

Username: demo



student@demo.edu.hk

Start Playing!

My Student Dashboard



Current Hero: Tharin

Change Hero

Current Classes

Demo (Python)

Teacher: 5dbeeaef048b45

Introduction to Computer Science [view map](#) [view challenge levels](#) [view videos](#)

Start

0.0%

JOIN A CLASS

Ask your teacher if you have a CodeCombat class code! If so, enter it below:

<Enter Class Code>

Join

註冊及登入Codecombat (5 分鐘)

Register and Sign-in Codecombat Platform
(5 minutes)



BACK TO CLASSROOM

VIDEOS

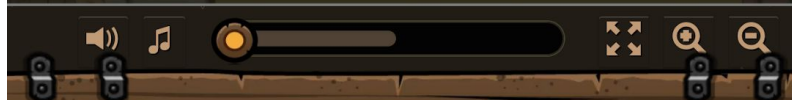




1. DUNGEONS OF KITHGARD

Grab the gem and escape the dungeon—but don't run into anything else. In this level, you'll learn basic movements for your hero.

PLAY



Goals

Avoid the spikes.
Collect the gem.

關卡任務



Guide your hero by writing a program with code!

Write code in the editor on the right, and click Run when you're ready. Your hero will read it and follow your instructions.

Move your hero down the hallway without touching the spikes on the walls.

START LEVEL

MAP

INTRODUCTION TO COMPUTER SCIENCE
1. DUNGEONS OF KITHGARD

GAME MENU

VIDEOS

HINTS

✓ Avoid the spikes.
Collect the gem.

GOALS: 關卡任務
Task Goals

遊戲界面
Game GUI

Method

Python編程區
Python Editor

運行 Python 程式碼
Run your Python Program

hero.moveDown()
hero.moveLeft()
hero.moveRight()
hero.moveUp()

PROGRAMMING LANGUAGE: Python

1 # Move towards the gem.
2 # Don't touch the spikes!
3 # Type your code below and click Run when you're done.
4
5 hero.moveRight()
6

11

Tharin

PROGRAMMING LANGUAGE: Python

```
1 # Move towards the gem.  
2 # Don't touch the spikes!  
3 # Type your code below and click Run when you're done.  
4  
5 hero.moveRight()  
6 down  
7 hero.moveDown      press enter
```


編程任務 CS 1: 關卡 1-3 (15 分鐘)

Programming Practice CS1: Task 1-3
(15 minutes)

總結交流 (5 分鐘)

Summary
(5 minutes)

編程日誌 Programming Logs:

Codecombat Task : Codecombat 關卡:	
Learning Objective: 學習目標:	
I have learned: 我已學會了:	
Difficulty: 難處:	
Logs: 日誌:	

分享環節：

Sharing Section:

