



PYTHON



PLAY

MENU

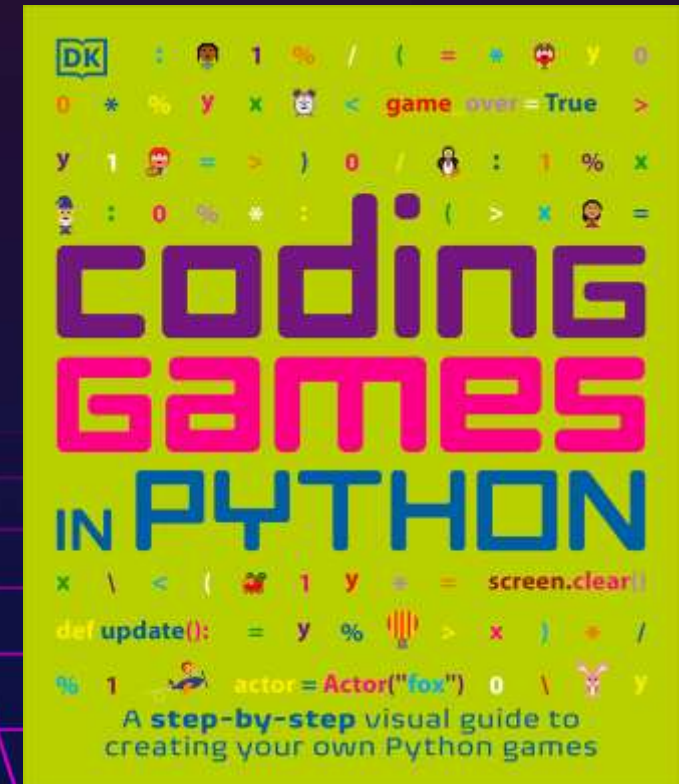
EXIT





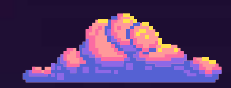
GIVING CREDIT DUE

- I could not have done these slides without referring to [Coding Games in Python](#) published by DK as part of the Help Your Kids series.
- The content is specifically adapted to the SEC 09 syllabus for LO 13.
- Minor adaptations have been made to cater to different learning styles and abilities.





BEFORE WE BEGIN

- What you should expect of the way these lessons are conducted.
 - Programming is not about what you know but what you can figure out!
 - These notes are not complete, so first we need to figure out what is what.
 - Each chapter has clear objectives we must reach.
 - We will analyze a lot of code first.
 - At the end of each chapter, we need to do a challenging task.
- 



PLAY



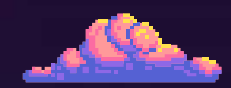
1 GETTING STARTED



EXIT



OBJECTIVES

- An introduction.
 - Interpret a program in Python that contains **input/output** statements, a **function definition** and an **import module** statement.
 - A walk through of Visual Studio Code IDE.
 - A walk through of GitHub and expected behaviour during coding lessons.
 - Write and run your first program in Python.
- 





INTRODUCTION

We need to feed computer systems **algorithms** to perform different tasks.

An algorithm is a list of step-by-step **instructions** to solve a problem.

We can write algorithms using a programming language like Python.

~~input~~





INTRODUCTION

Python is a **textual** programming language that has a syntax.



A program written in Python is made up of code blocks and symbols.

Python is a very popular programming language for building cool video games.

syntax

words

code blocks



WHAT DOES THIS DO?

Built-in Function

Most used algorithms come out of the box in the Python installation.

```
print("* Welcome to my game *")
```

A. input

B. loop

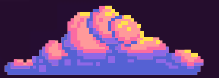
C. output



Multiple Choice

C++ { } 

WHAT DOES THIS DO?



```
if a == 2:  
    print("Hi there")  
else:  
    print("Bye bye, see you later")
```

Indents

When nesting code add
exactly 4 spaces.

A. condition

B. input

C. loop

 Multiple Choice

WHAT DOES THIS DO?

PygameZero

Modules

We can
install separate modules
in our project to make
coding easier

```
import pgzrun  
# more code here...
```

A. variable decloration

B. orithmetic

C. import code bundle



Multiple Choice

WHAT DOES THIS DO?

```
import pgzrun  
def draw():  
    screen.draw.text("Hello")
```

Function

We can organize the code in function blocks which we declare at the top underneath our imports

Indents

A. function declaration

B. condition

C. input prompt

 Multiple Choice



MEET OUR IDE

- An integrated development environment or IDE is a software application that helps programmers develop software code efficiently.
- Watch the video and then listen to the instructions very carefully to open Visual Studio Code.





1.1 INPUT AND OUTPUT

output

Input and _____ statements in Python will feature regularly in our programs.

functions

Python gives us shortcuts called _____ that we can use immediately.

For output we will use the `print()` and for input we will use the

`input()`

syntax





PRINT() FUNCTION

```
# output a piece of text on to the console  
print("This text will be displayed or outputted.")
```

How to use

When we build programs with a textual interface we need to use this function to output messages to the user. For example, when we output a result or maybe an error.





PRINT() FUNCTION

```
# you can print multiple elements in sequence  
print("Hi", 5, "there!")
```

Many Features

Built-in functions in Python are rich in features and super flexible. There is so much more to the print() than we let on here. However, we will stick to the basics for now.



INPUT() FUNCTION

```
# asks the user to type in their name  
name = input("What is your name?")
```

How to use

When we build programs with a textual interface we need to use this function to ask the user to type in a value from the keyboard. The value the user types in is stored in name.



DID YOU UNDERSTAND?

Complete the Program

Write a program that asks the user how old he is. As output the program will display back a message together with the value inputted.

```
# asks the user to type in their age
age = _____("Enter age: ")

# output the message back
_____("You are", _____, "!")
```

print

age

input



Fill in the Blanks



LESSON CHALLENGE

- Every lesson will be a task on GitHub and you will need to obey instructions to complete a task.
- A lesson will always start with some information so that you do not jump right in blind.
- Find your first task!

