



# PYTHON





# AGENDA

**DAY  
01**

**DAY  
02**

**DAY  
03**

**DAY  
04**

**DAY  
05**

Introduction



Data Types



Operators  
&  
Conditional  
statements

Looping  
statements

Dictionary

**Assignment  
1**

**DAY  
06**

**DAY  
07**

**DAY  
08**

**DAY  
09**

**DAY  
10**

Functions,  
Lambda

Exception, file  
handling

Class and  
object

Libraries,  
packages,  
modules

Regular  
expression

**Assignment  
2**



**DAY  
11**

Web  
scrapping



**DAY  
12**

Speech  
recognition,  
translation



**DAY  
13**

Virtual  
assistant

**DAY  
14**

Database

**DAY  
15**

Pandas  
library

**Assignment  
3**

**DAY  
16**

**DAY  
17**

**DAY  
18**

**DAY  
19**

**DAY  
20**

**Numpy**



**Matplotlib,  
seaborn**

**Machine  
learning  
Introduction**

**ML part 1**

**ML part 2**

**Assignment  
4**

# PROJECT SUBMISSION

DAY  
21

DAY  
30



01

# INTRODUCTION





# WHAT IS PYTHON?



## PYTHON IS A POPULAR PROGRAMMING LANGUAGE

- It was created by Guido van Rossum, and released in 1991.
- It emphasizes on code readability, shorter codes, ease of writing.
- Programmers can express logical concepts in fewer lines of code in comparison to languages such as C++ or Java.



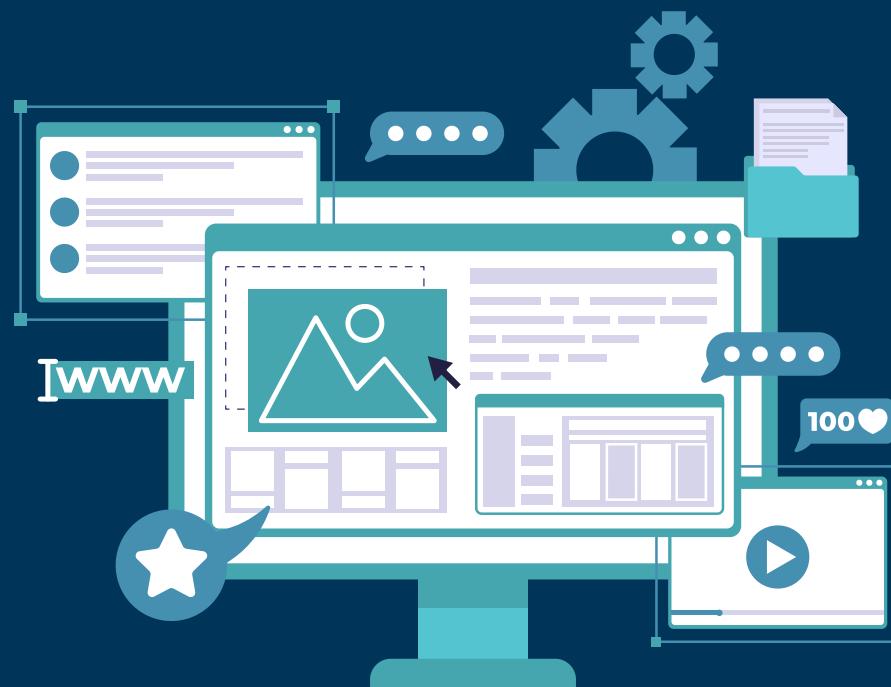
CAN BE USED ON A  
SERVER TO CREATE  
WEB APPLICATIONS

CAN BE USED  
ALONGSIDE SOFTWARE  
TO CREATE  
WORKFLOWS

CAN BE USED TO  
HANDLE BIG DATA AND  
PERFORM COMPLEX  
MATHEMATICS

CAN CONNECT TO  
DATABASE SYSTEMS

# WHAT CAN PYTHON DO ?



# WHY PYTHON ?



- Python is easy to learn.
- Its syntax is easy and code is very readable.
- lot of applications in web applications, data science, rapid application development, and so on.
- Allows you to write programs in fewer lines of code

# "HELLO WORLD!"



● ● ● C++

```
#include <iostream>

int main() {
    std::cout << "Hello World!";
    return 0;
}
```



● ● ● Java

```
class HelloWorld {
    public static void main(String[] args) {
        System.out.println("Hello World!");
        // Hello World!
    }
}
```



● ● ● Python

```
print("Hello World !")
```



# APPLICATIONS OF PYTHON

WEB APPLICATIONS

DESKTOP APPLICATIONS

GAME DEVELOPMENT

DATA SCIENCE

IMAGE PROCESSING

DATABASE  
MANAGEMENT

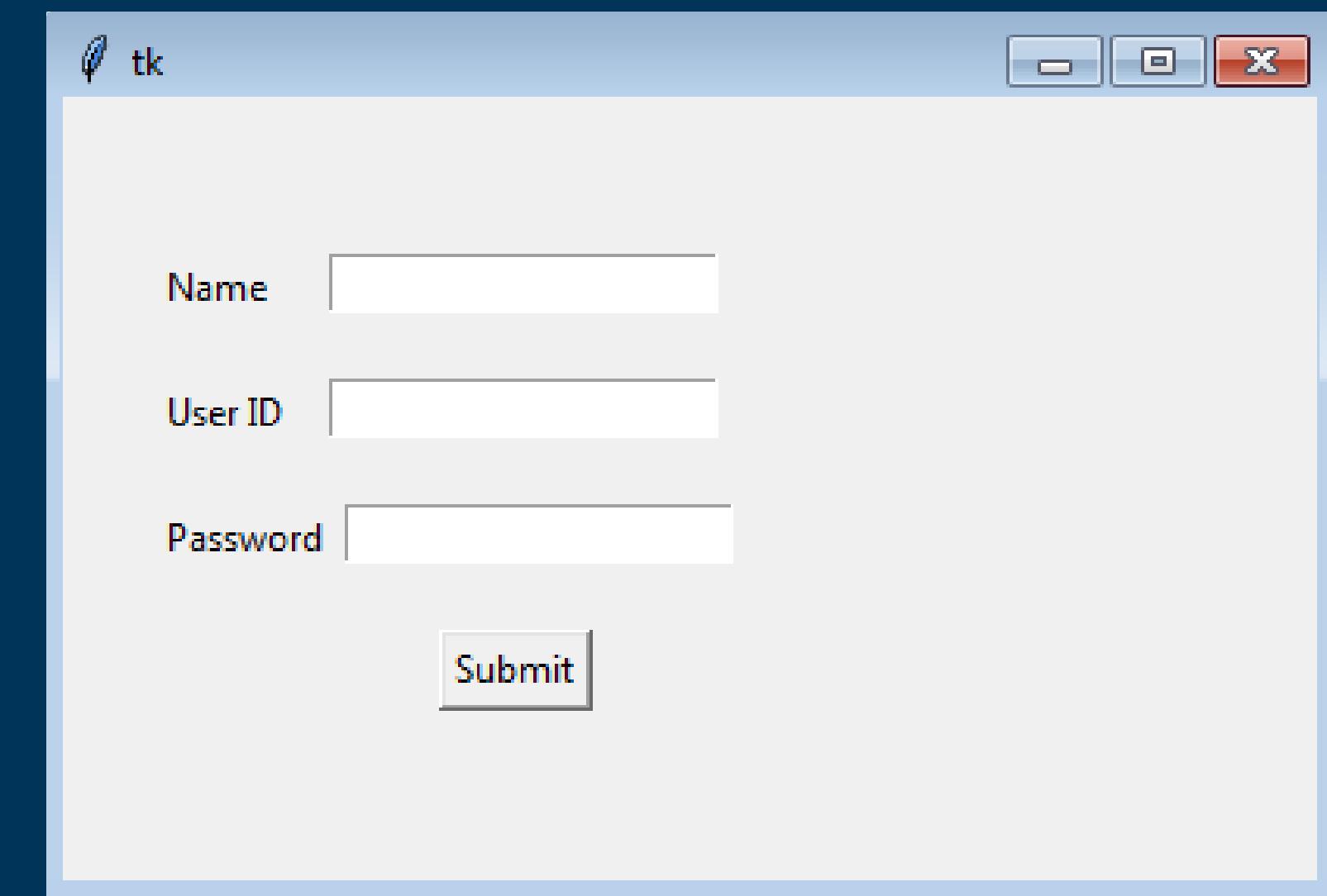


# WEB APPLICATION DEVELOPMENT

django



# DESKTOP APPLICATION



A screenshot of a Tkinter-based desktop application window titled "tk". The window contains three text input fields labeled "Name", "User ID", and "Password", each with a corresponding empty white input box. Below these fields is a "Submit" button with a dark grey border and a light blue background. The window has a standard blue title bar with minimize, maximize, and close buttons.



# GAME DEVELOPMENT

**Pygame**



# DATABASE



# DATA SCIENCE

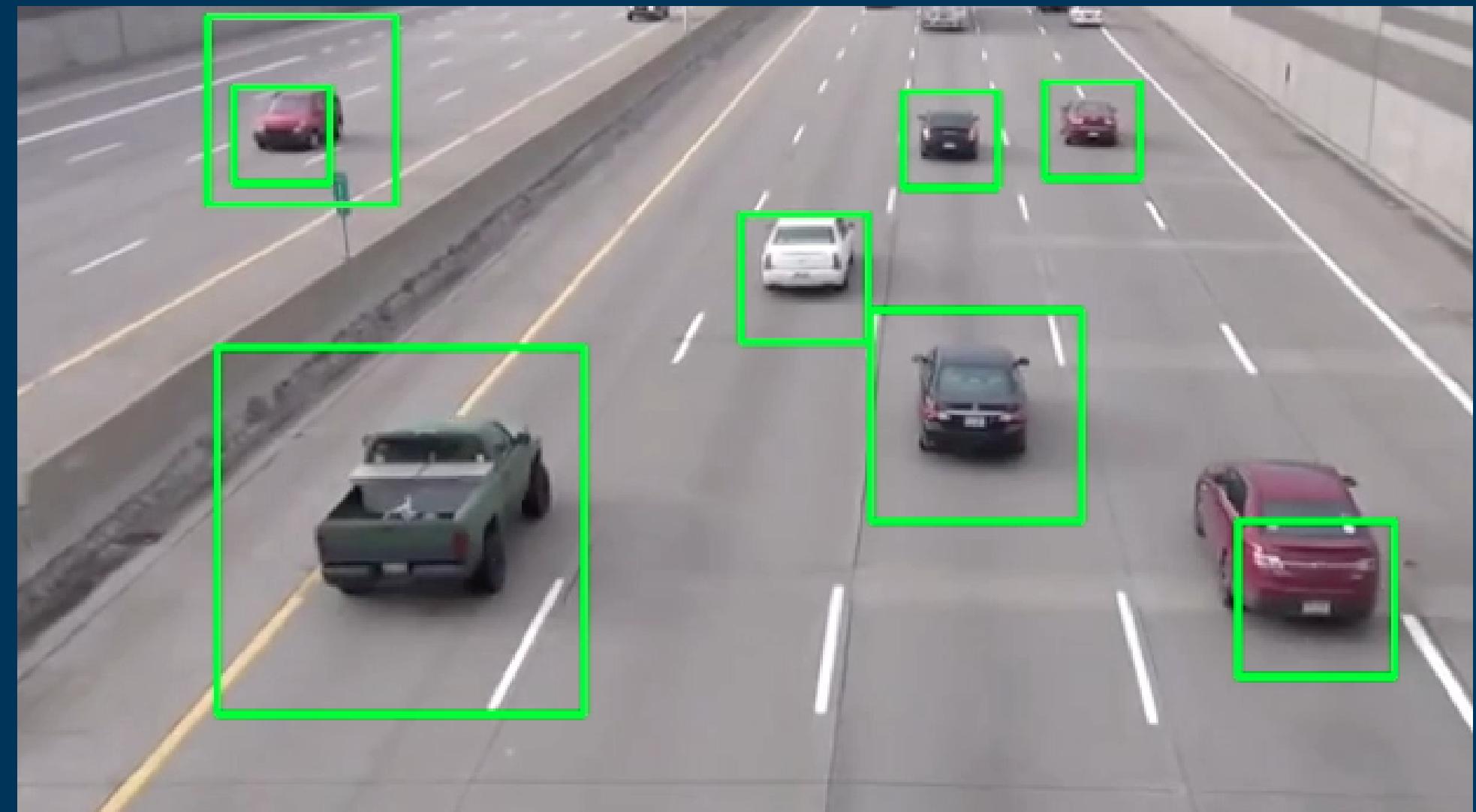
 TensorFlow

 scikit  
learn

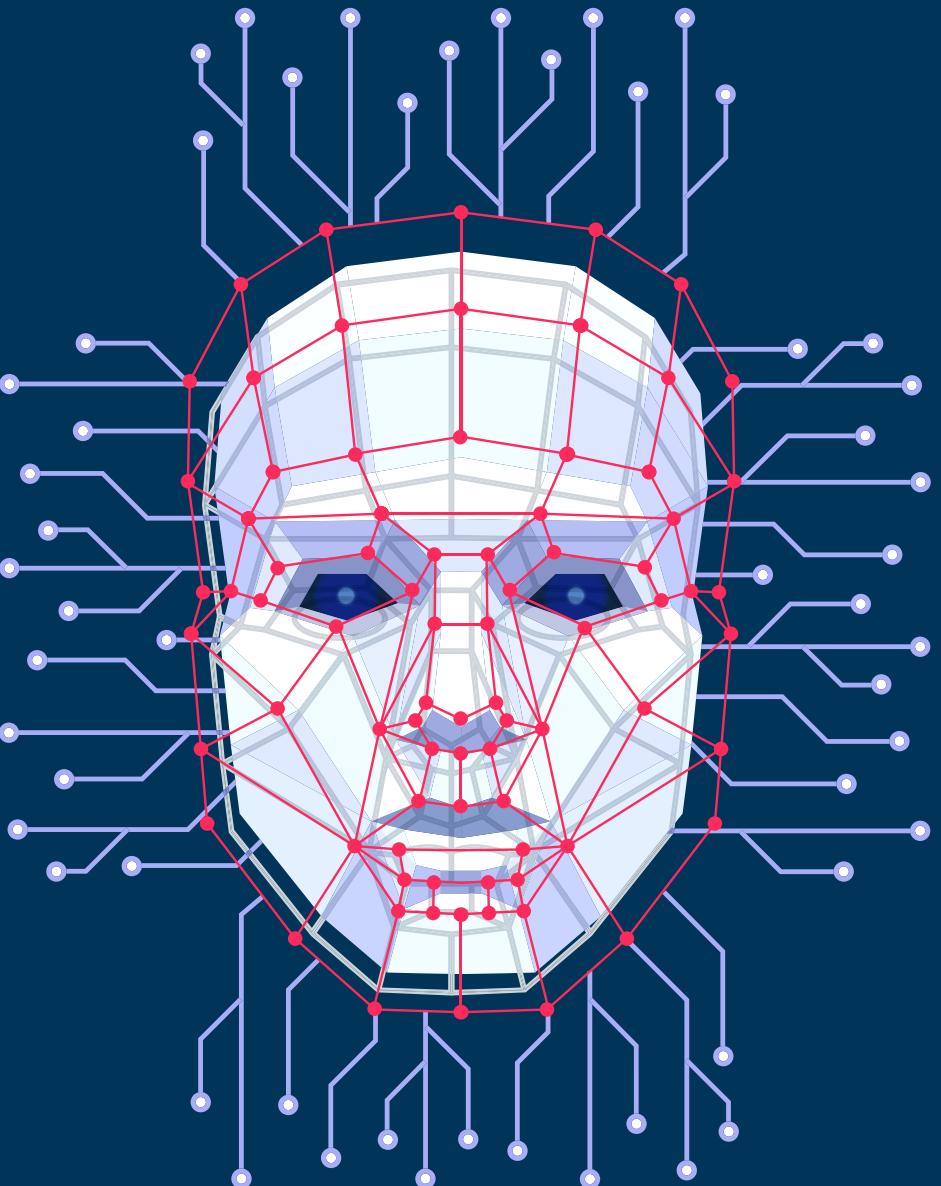
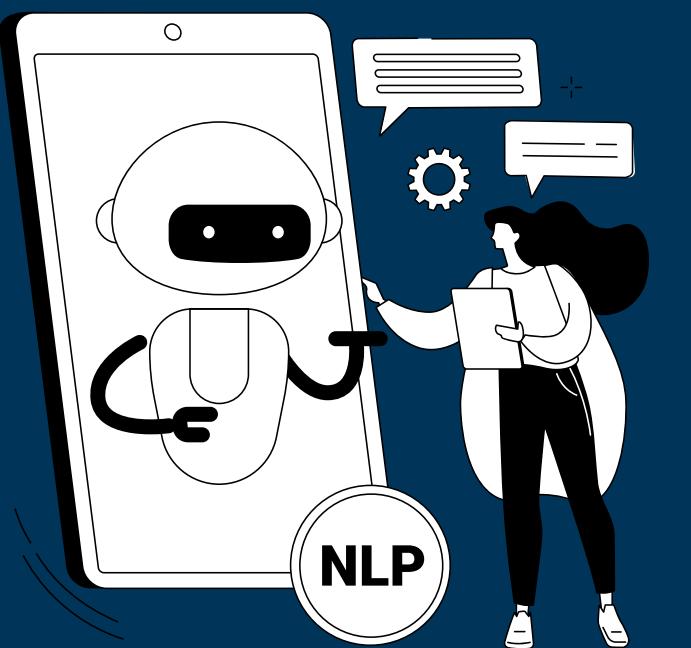
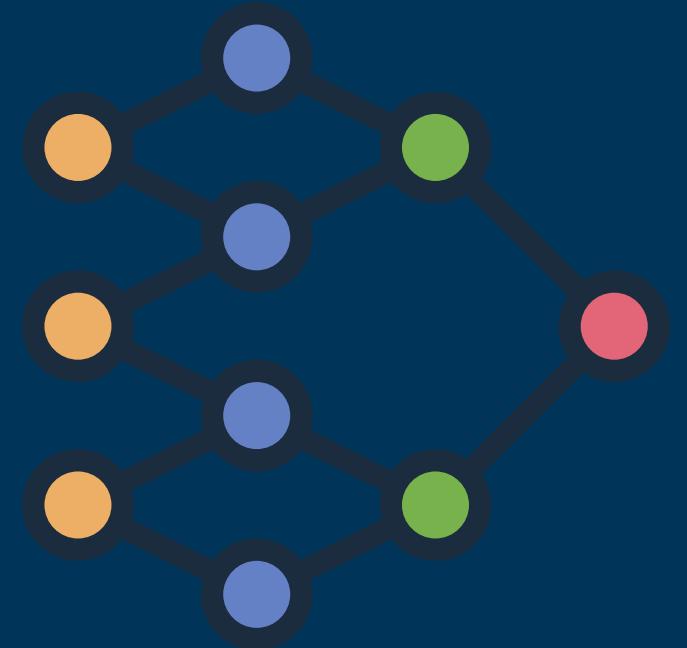


# IMAGE PROCESSING

 OpenCV



# ARTIFICIAL INTELLIGENCE





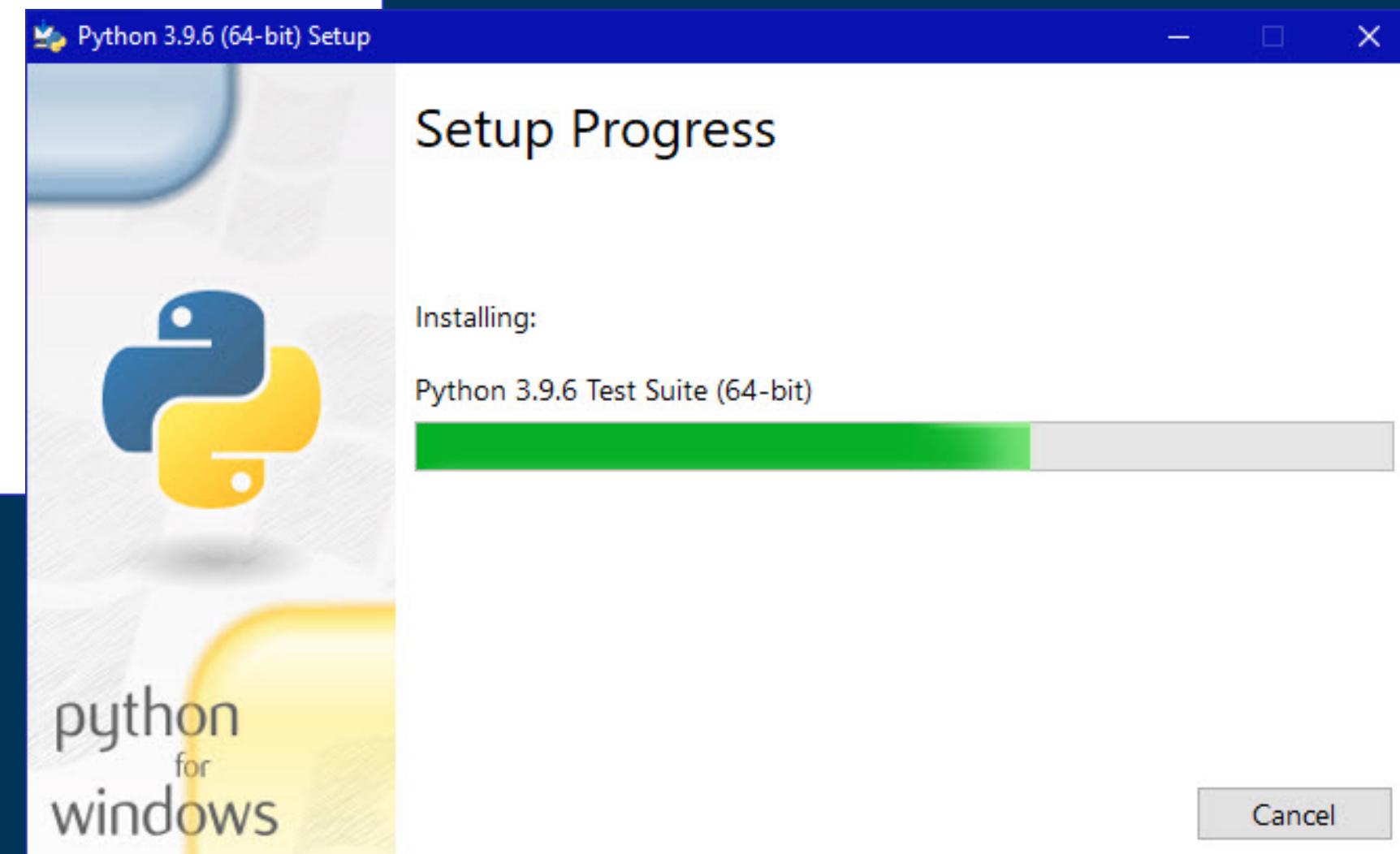
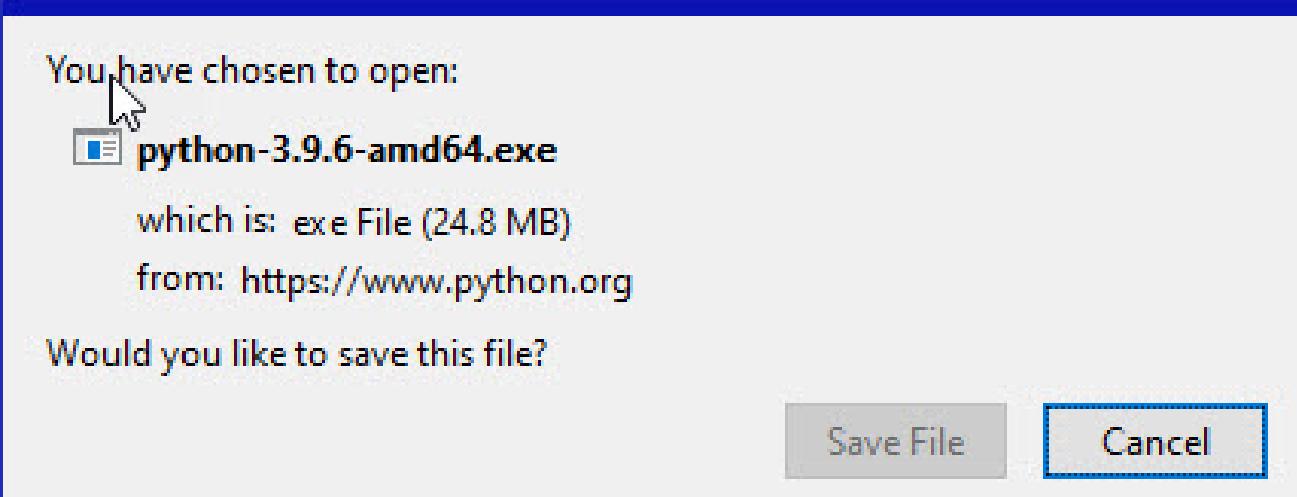
# GET STARTED





# PYTHON INSTALLATION

- Download Python from <http://www.python.org>
- Install Python.
- Run Idle from the Start Menu.

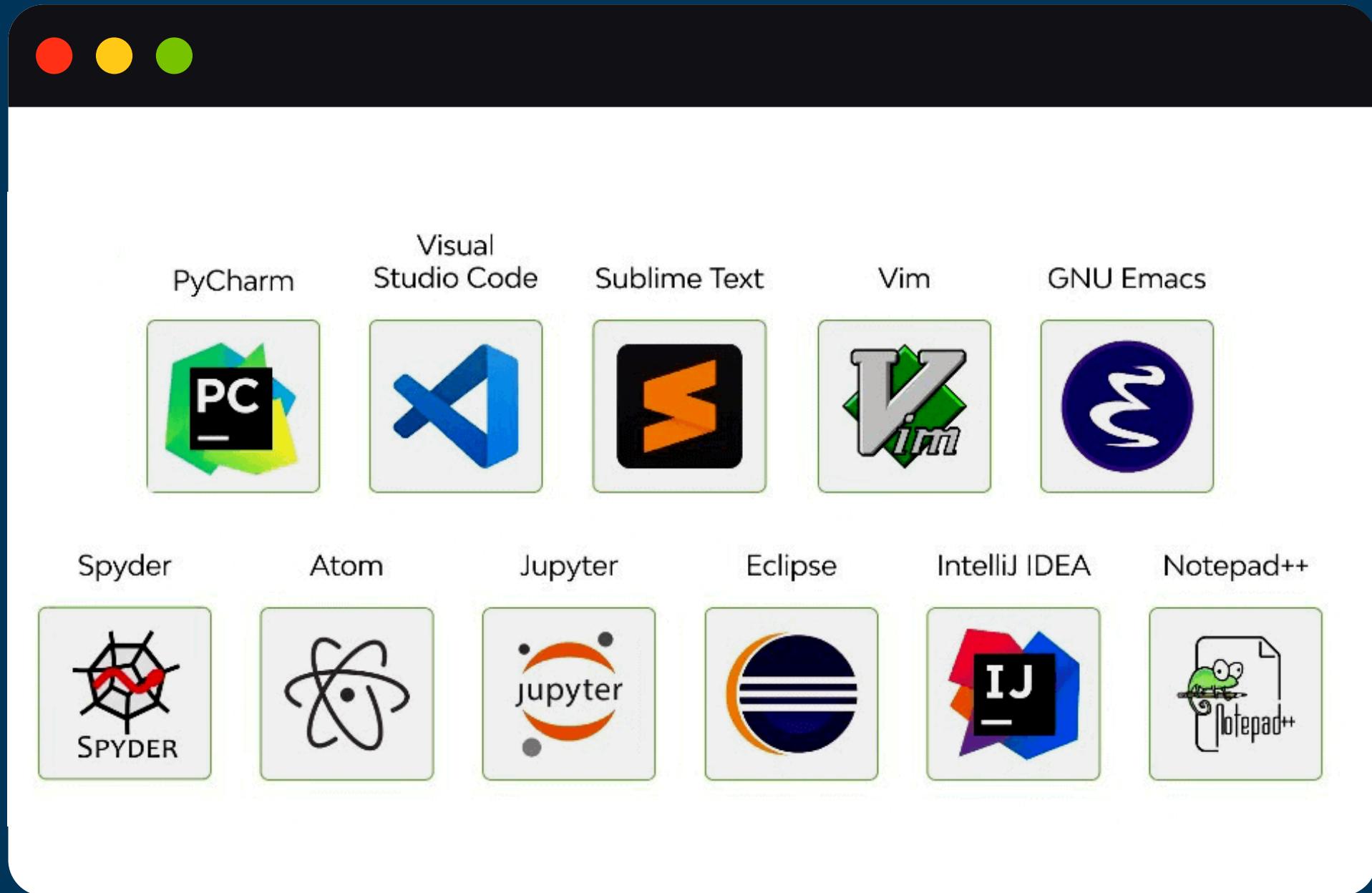
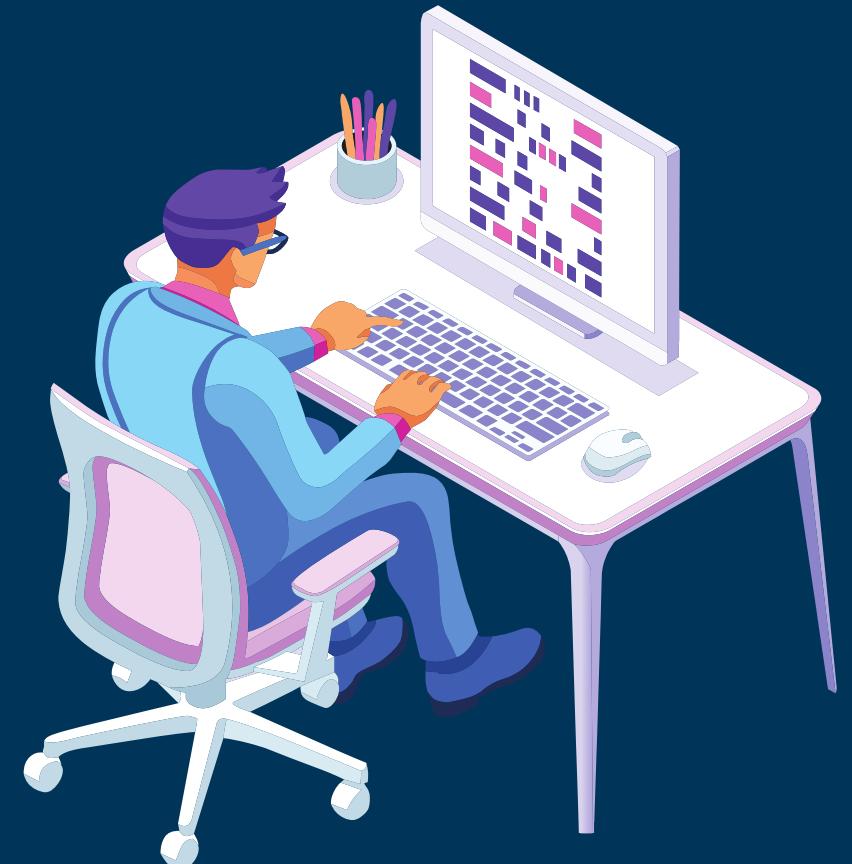


# PYTHON IDLE

(INTEGRATED DEVELOPMENT AND LEARNING ENVIRONMENT )

```
File Edit Shell Debug Options Window Help
Python 3.10.6 (tags/v3.10.6:9c7b4bd, Aug 1 2022, 21:53:49) [MSC v.1932
64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information
>>>
```





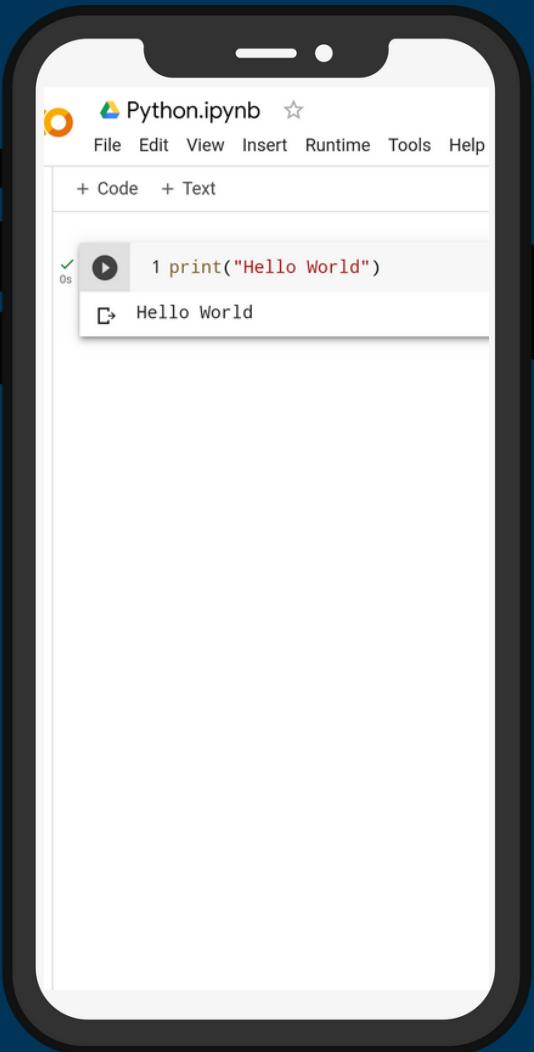
# PYTHON IDE

(INTEGRATED DEVELOPMENT ENVIRONMENTS )

“



# GOOGLE COLAB



Welcome To Colaboratory

File Edit View Insert Runtime Tools Help

Share Sign in

+ Code + Text Copy to Drive Connect Editing

## What is Colaboratory?

Colaboratory, or "Colab" for short, allows you to write and execute Python in your browser, with

- Zero configuration required
- Free access to GPUs
- Easy sharing

Whether you're a **student**, a **data scientist** or an **AI researcher**, Colab can make your work easier. Watch [Introduction to Colab](#) to learn more, or just get started below!

### Getting started

The document you are reading is not a static web page, but an interactive environment called a **Colab notebook** that lets you write and execute code.

For example, here is a **code cell** with a short Python script that computes a value, stores it in a variable, and prints the result:

```
[ ] seconds_in_a_day = 24 * 60 * 60
seconds_in_a_day
```





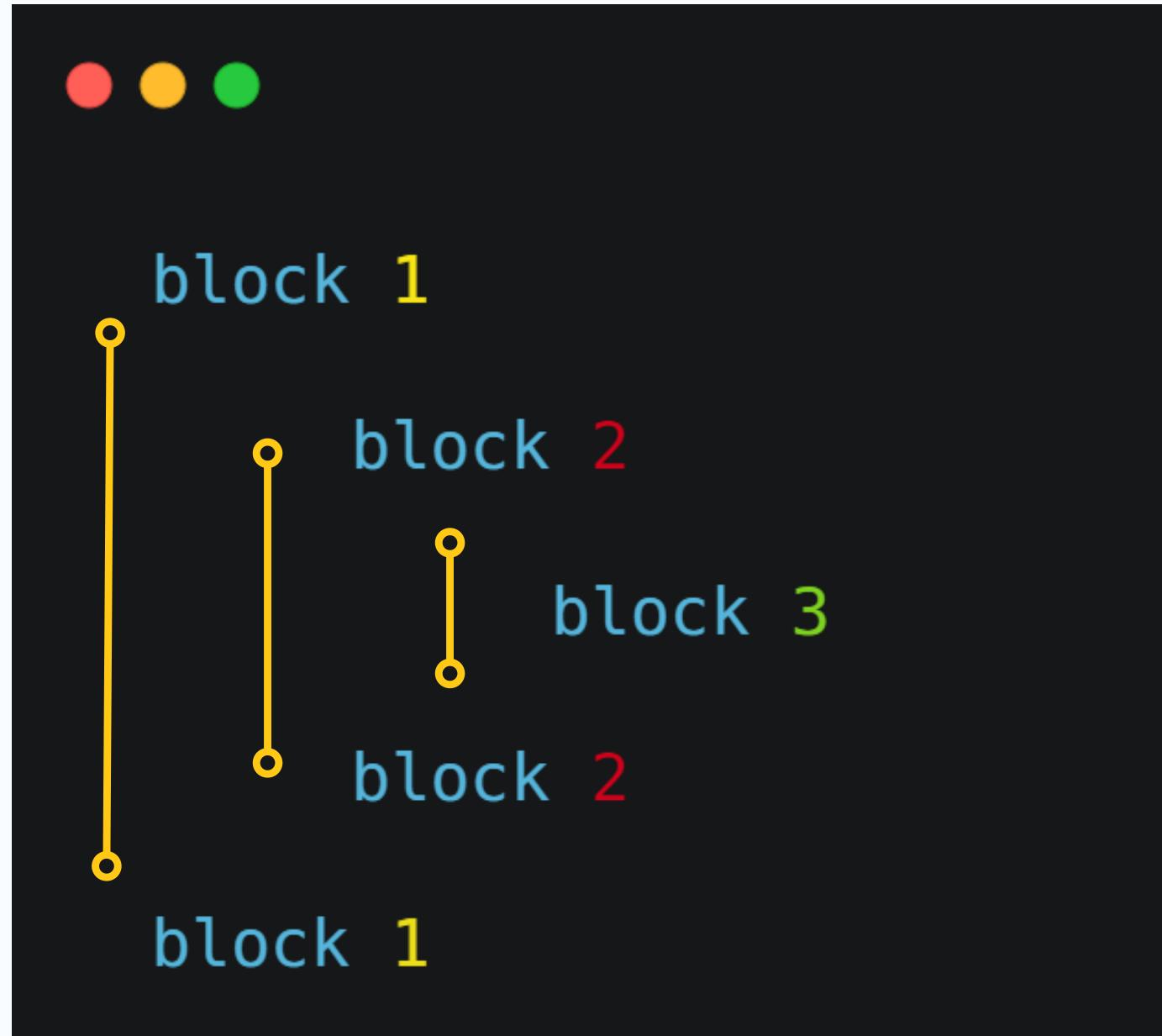
# SYNTAX

## ● SYNTAX

1. Intendation
2. Comments
3. Multiline statements
4. Quotation



# INTENDATION



- Indentation refer to the spaces at the beginning of the code line.
- Python indentation is a way of telling a Python interpreter that the group of statements belongs to a particular block of code.

# IMPORTANCE OF INTENDATION



- Indicate the start and end of code blocks in python .
- In other programming languages where curly braces {} or other symbols are used to indicate the start and end of a code block.
- Standard indentation level: 4 spaces
- Incorrect indentation can lead to **Indentation Error** in the code.

# COMMENTS



```
● ● ●  
# This is a single line comment  
  
print("Hello world")  
  
""" This is a multiline  
comment which can be  
extended more than one line """  
  
print("Hellooo all ")
```

- Comment start with a "#", and python will render the rest of the line a comment.
- For multi-line comments, the comments can be mentioned between "'''-----'''"

# MULTI-LINE STATEMENTS



```
1 + 2 + 3 + 4 + 5 = 1 + 2 + \
                      3 + 4 + 5
```

**Both are same**

- line continuation character (\) to denote the line should continue.
- Statement contains with in [],(),{} brackets do not need to use the line continuation character

# QUOTATION IN PYTHON



99

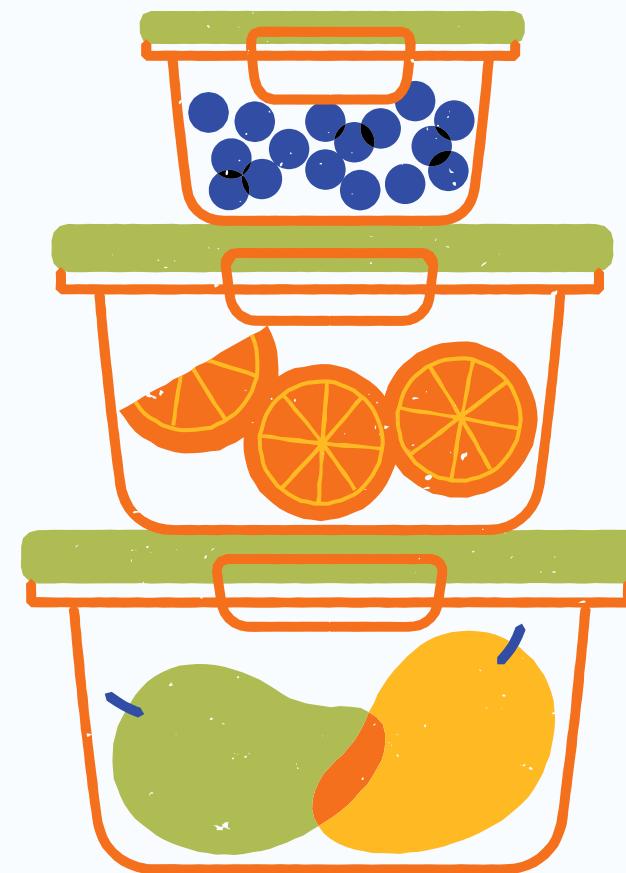
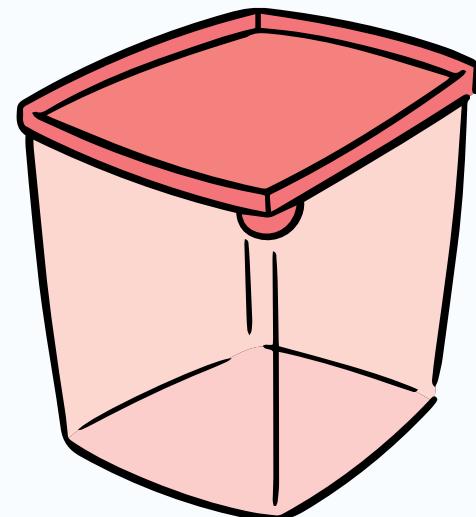
Python accept ('),(“) and(“””) quotes to denote strings  
and multi lines

‘ ’  
“ ”



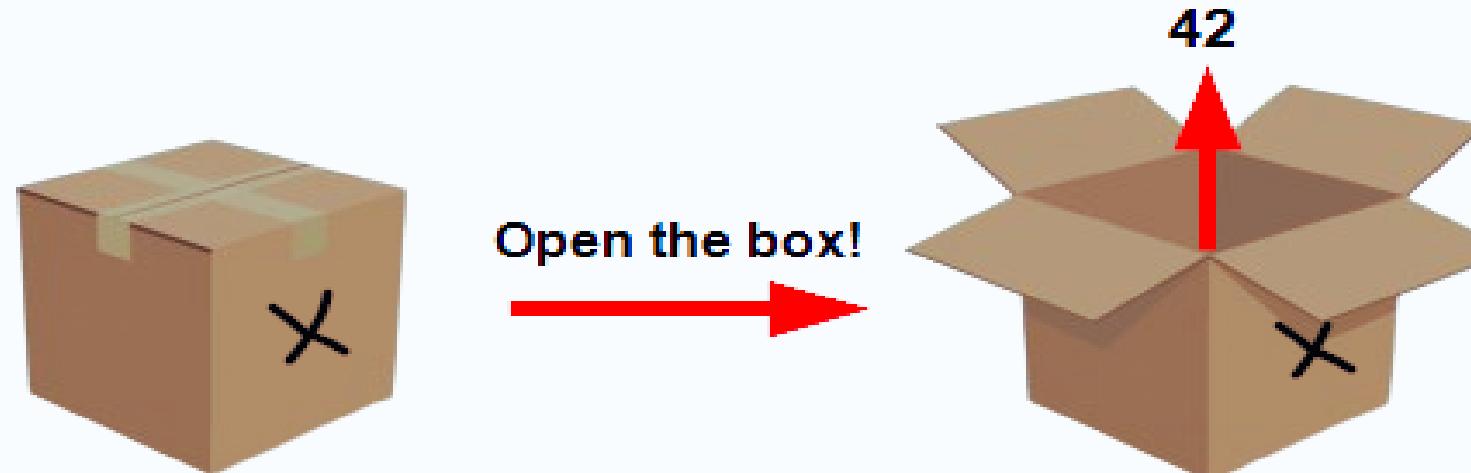
# VARIABLES

# VARIABLES



Variables are containers for  
storing data values

# VARIABLES



Container 1



Container 2

- The value stored in a variable can be of any data type
- To create a variable in Python, you simply need to assign a value to a name using the **assignment operator (=)**
- Can be accessed and modified by referring to its name

# RULES FOR PYTHON VARIABLE



- variable names in Python have to start with a letter or an underscore
- They cannot start with a number
- They can't contain any special characters other than an underscore
- Variable names are case-sensitive (age, Age and AGE are three different variables)



# THANKS FOR WATCHING

