Welcome to coding class

What is programming?

Giving instructions to a computer

Make it do something
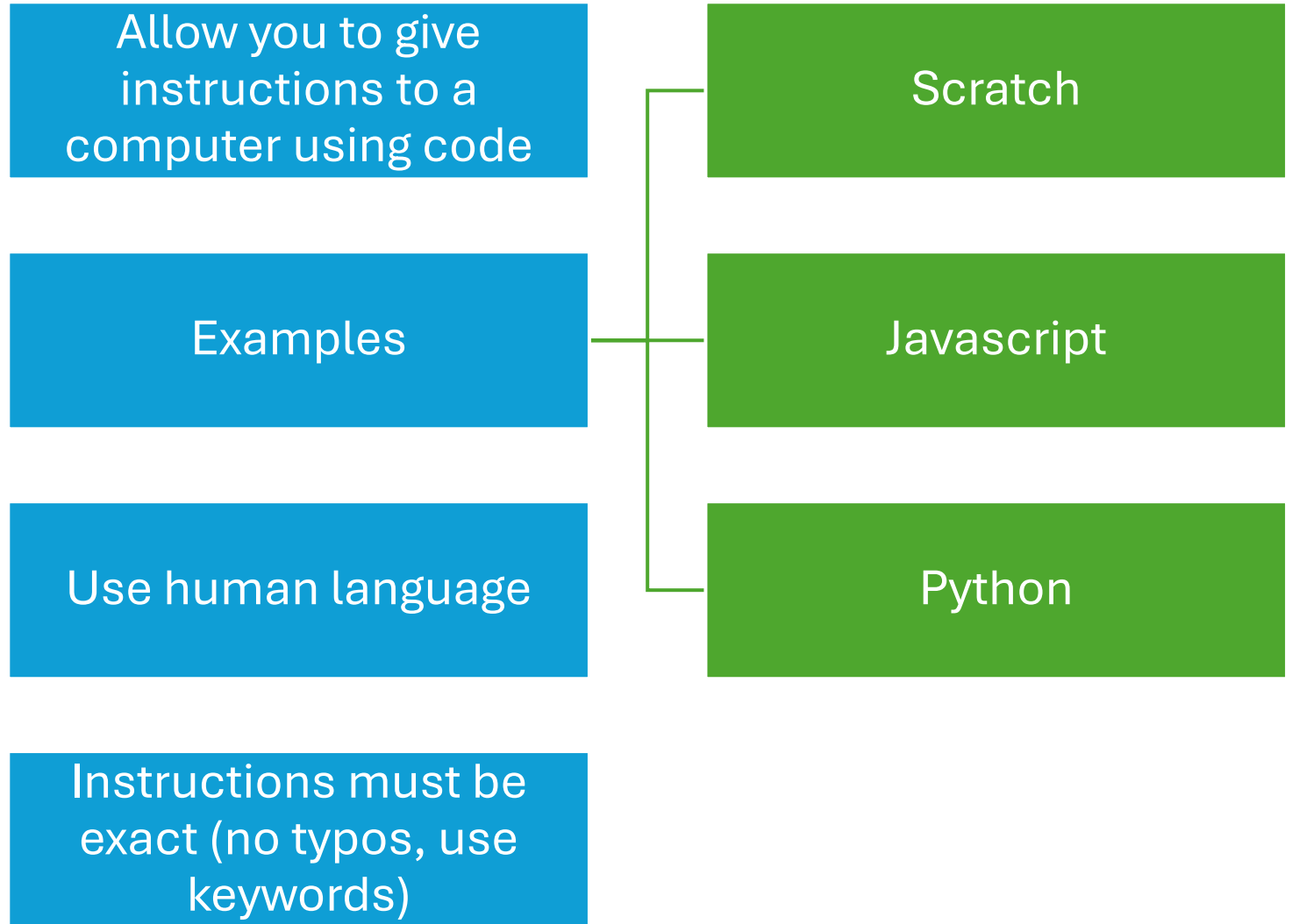
Examples

Setting timer on microwave

Setting an alarm clock

Changing settings on smartphone

What are programming languages?

Allow you to give instructions to a computer using code	Scratch
Examples	Javascript
Use human language	Python
Instructions must be exact (no typos, use keywords)	

Python

Programming language

Easy to learn and write

Used by large companies like Google and NASA

Used for:

- Games
- Web and software development
- AI/Machine learning
- Scientific research

Installing Python

- python.org/downloads

Donate

Search

GO

Socialize

About   Downloads   Documentation   Community   Success Stories   News   Events
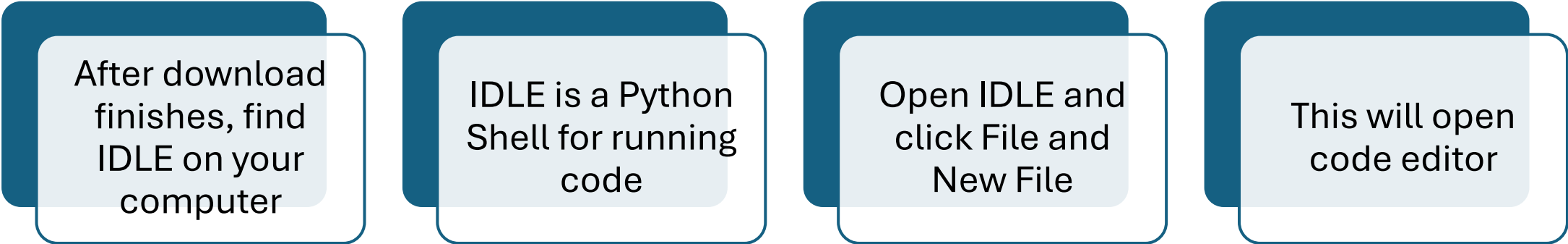
Download the latest version for Windows

Download Python 3.13.5

Looking for Python with a different OS? Python for Windows,
Linux/Unix, macOS, other

Want to help test development versions of Python 3.14? Pre-releases,
Docker images

Active Python Releases

Using IDLE

After download finishes, find IDLE on your computer

IDLE is a Python Shell for running code

Open IDLE and click File and New File

This will open code editor

IDLE Shell 3.10.7

File | Edit | Shell | Debug | Options | Window | Help

File menu	
New File	Ctrl+N
Open...	Ctrl+O
Open Module...	Alt+M
Recent Files	▶
Module Browser	Alt+C
Path Browser	
Save	Ctrl+S
Save As...	Ctrl+Shift+S
Save Copy As...	Alt+Shift+S
Print Window	Ctrl+P
Close Window	Alt+F4
Exit IDLE	Ctrl+Q

3.10.7:6cc6b13, Sep 5 2022, 14:08:36) [MSC v.1933 64 bit (

ht", "credits" or "license()" for more information.

active help, or help(object) for help about object.

Ln: 5   Col: 0

untitled

File | Edit | Format | Run | Options | Window | Help

Ln: 1   Col:

First program – Hello World

01

print keyword – prints output to terminal

02

print("Hello, World!")

03

Type code into code editor

04

Save program as hello.py, then click Run

File   Edit   Shell   Debug   Options   Window   Help

```
Python 3.10.7 (tags/v3.10.7:6cc6b13, Sep  5 2022, 14:08:36) [MSC v.1933 64 bit (
AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
=== RESTART: C:/Users/ilyab/AppData/Local/Programs/Python/Python310/hello.py ===
Hello, World!
>>>
```

Ln: 6 Col: 0

File   Edit   Format   Run   Options   Window   Help

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

Ln: 1 Col: 20

Parentheses () contain message you want to be printed

Putting it in quotes makes it a string datatype

Strings contain text

- Try changing the message inside the string
- Ex. Make the program say hello to you
- Save and run when finished

- Try printing multiple messages
- Your name
- Your age
- Fact about you

- print("My name is John")
- print("I am 12 years old")
- print("I like to draw")

Fixing errors

- Try removing the quotes or parentheses and see what happens when you run the program

- Code syntax needs to be exact, otherwise it will generate errors

Printing numbers

print(5)

Numbers are an int datatype (integer)

Don't need quotes since they are treated as numbers rather than text

- Try printing different numbers

Mathematical operations

- Can use print statement to solve equations and print solution
- print(5+2)
- print(8-3)
- print(10*4)
- print(12/2)

- What will be output if you put equation in quotes?
- print("5+2")

Try these. What will be output of each one?

- print("5"+"2")
- print("5" + 2)
- print("5"+"Hello")
- print(5 + "Hello")
- Print("Hello" + "World")

Comments

print(5+2) #prints solution to equation

symbol used to leave comments in code

Comments are meant to make your code easier to read

Don't affect how code is run

Review

print keyword prints output to terminal

Dataypes

- String- used for text. In quotes.
- Int – used for numbers. No quotes.