# Python

## Lists

### For loops with lists:

    cat = ['fat', 'orange', 'loud']

    for i in range(len(cat)):

        print(cat[i])

### Multiple assignment:

    cat = ['fat', 'orange', 'loud']

    size, colour, disposition = cat

### List methods

    cat.index("orange")

    cat.append("hey")

['fat', 'orange', 'loud', 'hey']

    cat.insert(1, "bird")

['fat', 'bird', 'orange', 'loud']

    cat.remove("bird")

['fat', 'orange', 'loud']

remove takes out the first found value in the list

    del cat[0]

['fat', 'orange', 'loud']

del takes out the value at that point in the list

    cat.sort()

['fat', 'loud', 'orange']

sorts the list ascending order, alphabetically or numerically

if you want opposite, reverse=true

## Dictionaries

    myCat = {"weight": 20, "colour": "orange", "disposition": "loud"}

    print(myCat['weight'])

20

    print(myCat.keys())

dict\_keys(['weight', 'colour', 'disposition'])

    print(myCat.values())

dict\_values([20, 'orange', 'loud'])

* Order doesn’t matter for dictionaries
* To check if key in dictionary:

## List Comprehension

## Lambdas

# Java

# C++

# C

# Javascript

# Database

every database has a schema, it’s either defined by the database or the application

SQL

noSQL

PostgreSQL

mongoDB

# Data Science

# Unity

SerializeField – allows you to edit variables in unity editor rather than in the C# code.

Use inputField for WASD inputs, or button press

Rigidbody: allows objects to have physical interactions

* In 2D, will cause object to fall down the scene. Turn gravity scale to 0.

Collider2D: defines the shape of the object for collisions

To make objects appear above one another, use orderInLayer in sprite renderer.

For Trigger objects, make sure the colliders have isTrigger checked so they don’t affect physics.

# Web Development

# Containers

google container orchestration

article of container runtimes:

<https://www.aquasec.com/cloud-native-academy/container-security/container-runtime/#:%7E:text=What%20Is%20a%20Container%20Runtime,on%20a%20host%20operating%20system>

another:

<https://kubernetes.io/docs/setup/production-environment/container-runtimes/>

## Docker

## Kubernetes

Kubernetes is like docker but for larger scale applications. the next step.

# AI Tools

## Github Copilot

Alt backslash -> trigger copilot explicitly

If you don’t like suggested solution, open a window with multiple solutins with ctrl + enter