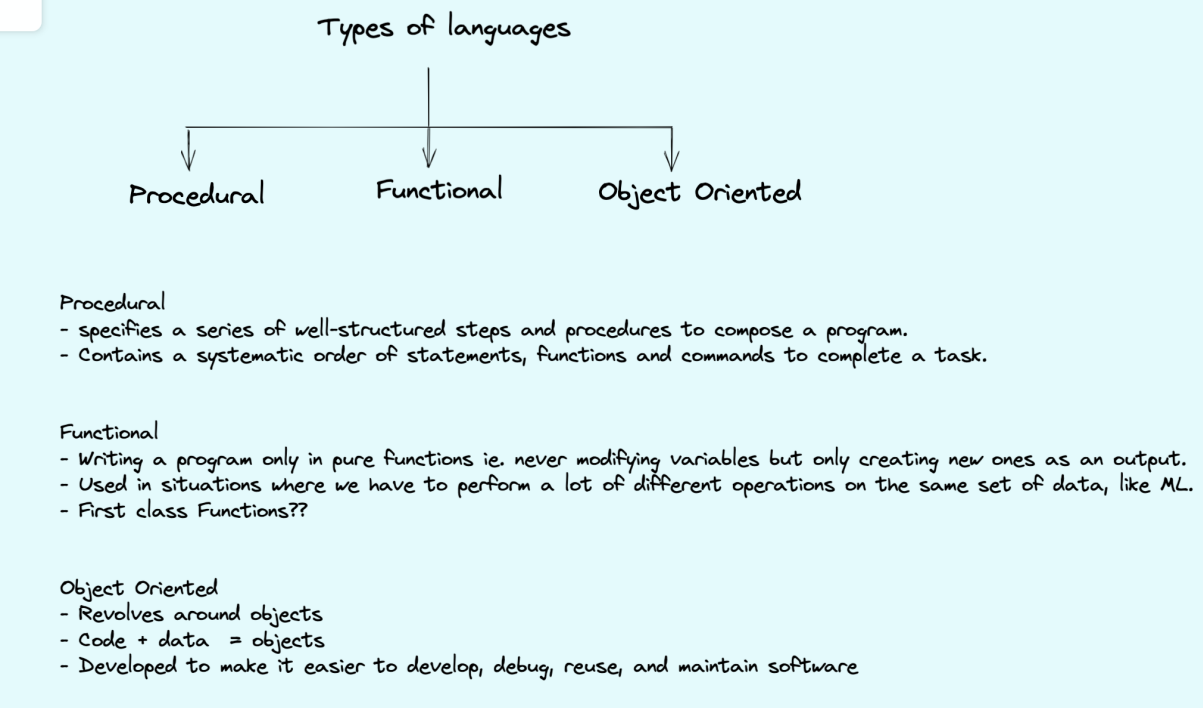
Introduction to programming

Created	@September 3, 2022 1:52 PM
Class	
Type	Lecture
Materials	https://www.youtube.com/watch?v=wn49bJOYAZM&list=PL9gnSGHSqcnr_DxHsP7AW9ftq0AtAyYqJ&index=5
Reviewed	☐

What are programming languages? Why do we need them?

Internally everything is 0s and 1s in computers. Say I want to write a program to add two numbers or print my name, or print todays date. Basically these are just instructions I will have to give the computer instructions to do this and it would be hard to to write this in 0s and 1s so the computer can understand it (because computers only understand 0s and 1s). ***This is why we have programming languages, so we can write these instructions in a human readable format.***

Types of Languages.



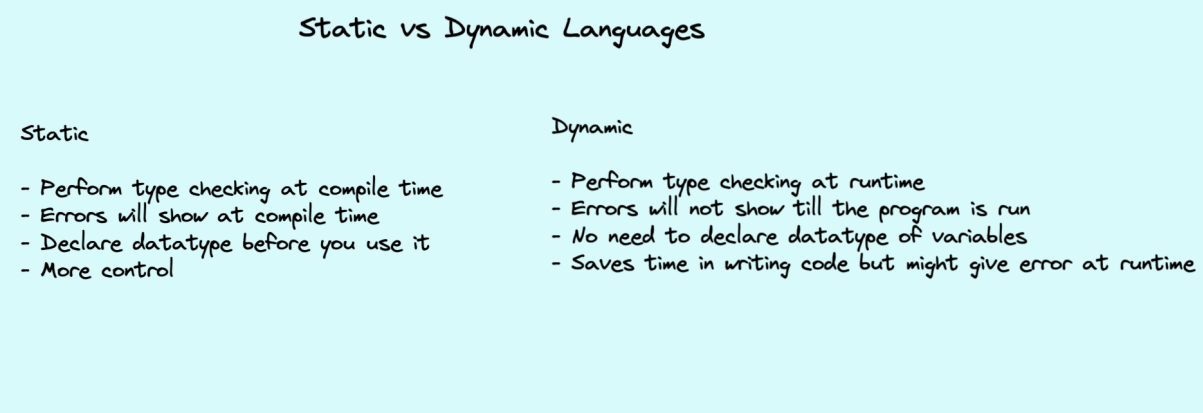
https://s3-us-west-2.amazonaws.com/secure.notion-static.com/0ec76cc2-352b-4d63-9075-cef24b0b39d6/types-of-programming-languages.excalidraw

https://excalidraw.com/

Different languages can be of different types

Java , C++ supports both Procedural and Object Oriented, Python Supports all three. So languages can be of more than one type.

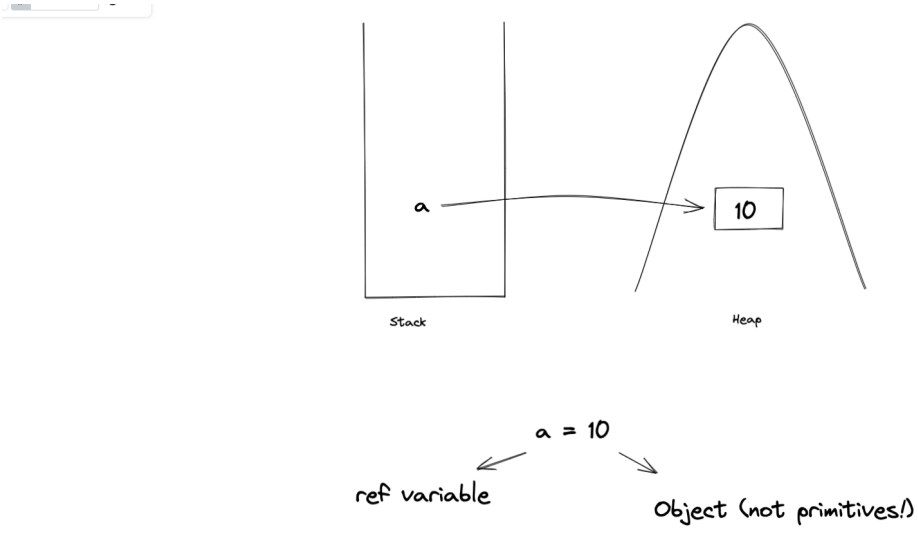
Static vs Dynamic Languages.



https://s3-us-west-2.amazonaws.com/secure.notion-static.com/1a25f168-3aee-42eb-9855-1e4efc6b7790/Static_vs_Dynamic_Languages.excalidraw

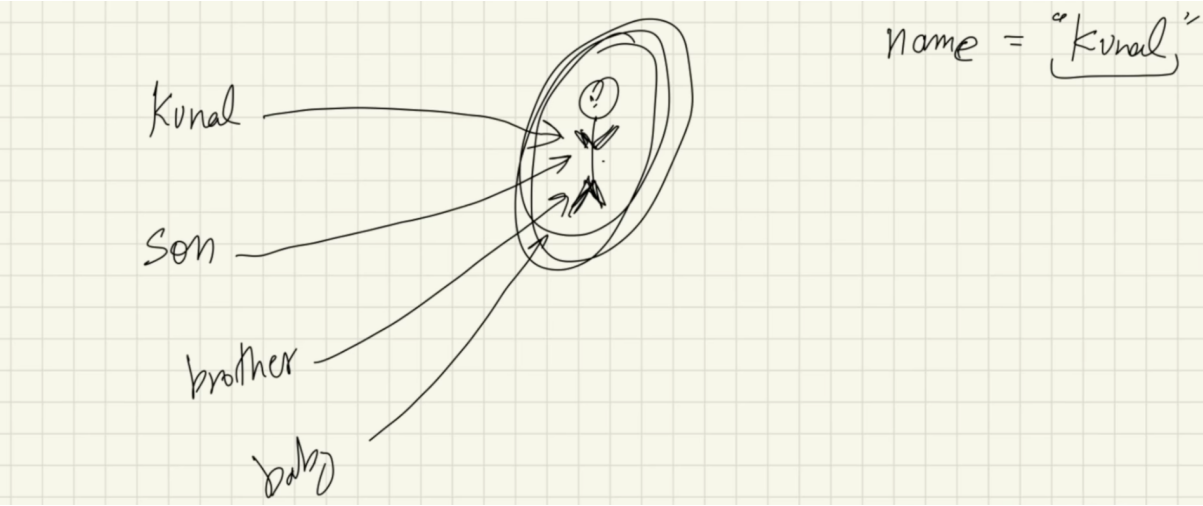
https://excalidraw.com/

Types of memory



https://s3-us-west-2.amazonaws.com/secure.notion-static.com/78e46d10-8d7a-478e-927f-1ef57ec805f0/Stack_and_Heap_memory.excalidraw

Important memory example



- More than one reference variable can point to the same object
- If any one of these reference variable changes the object the change will be visible to all these reference variable

Garbage Collection

https://developer.mozilla.org/en-US/docs/Web/JavaScript/Memory_Management

https://javascript.info/garbage-collection