

Contents.

1. AI & Intro

2. C++

- Hello World
- Type
- some useful commands
- if-else & switch
- loop

AI & Intro.

AI useful, but not at this stage.

IDE: CLion

Pace: > regular not taught since Covid.

Relate to 1114, it not familiar.

- ① Reach out to Prof
- ② OH: (see BS)

In Person: RGH 211 Th 1-2.5pm Prop_{in}

Zoom: M-T-W 1-2.5pm

schedule with TA candlely

1st Week: C++ Intro

2nd and later: OOP

intro → pointer ...

↓
hard.

Mid term

11 Lab

5 Assignment (5 days)

Final on 7/1

25% Penalty of Late before Late Due

Grading

Mid 25%

Final 30%

HW 25% \rightarrow Easy?

Lab 25% \rightarrow Effort based

Ed-stem

Time: Always $> 5\text{ min}$ late

C++

Created By : Bjarne Stroustrup

Why learn?

Comparison: Manual - Auto Car

(C++) Manual: experts know right time to switch

↳ ① compile gear & fast
- check errors & turn into object file.

② Interpret: run object

(Py) Auto: Computer delay for efficient Gears.

↳ Interpreted 1 line out of time

Compile between

theoretically faster

but inside may error but still run.

Hello World !!! (see cpp)

Type

Type: a var can only hold 1 type.

bool: true/false.

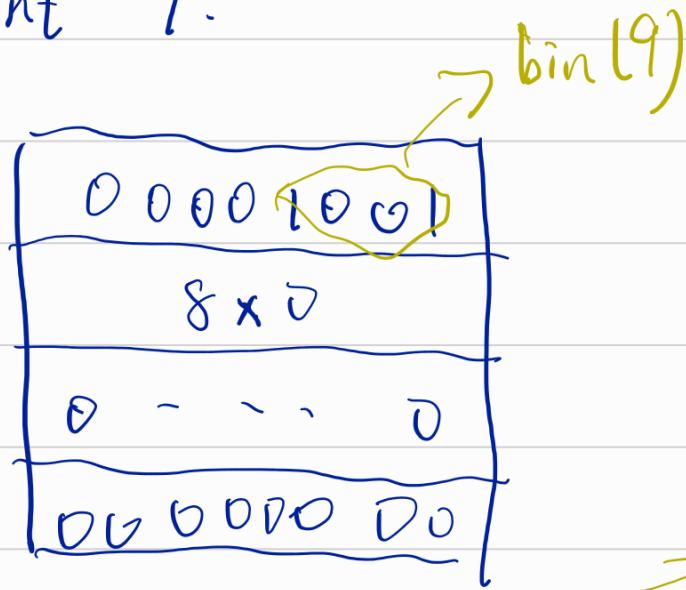
char: 'a', 'I' → 1 byte

int: integer → 4 byte

double: 3.14, 3.00 → 4 + 4 = 8 byte
ala have a decimal part.

to declare a var, first declare the type

eg. int 9:



$4 \times 8 = 32$
but 1 bit for sign (+/-)

∴ Max Int: $2^{31} - 1$

Auto

if u don't know what type to use , use auto

or decltype()

* U can't MODIFY the type after
u set!

* C++ case-sensitive
Py not ~

Const: make it not modified.

\b: backslash

\\" print "\\"

If ~ statements

See CPP.

Sth new: switch -

Statement: thing consider

case: thing want to compare with

(statement = case)

default: always execute !!

≠ Else

Loop.

Py { for
While }

C++ { for
while
do ~~ while }

For:

for (initial [↑] expr; control expr; step expr)

can declare an iter here
usually "iterator")

While:

while (control expr)

do...while:

do {

} while (cond);

Declaration : At the beginning

returntype [func-name] (type¹ name¹, type² name²);
e.g. void.

only
declare

Define. → end



We separate them so that we save memory if func not called
u can also use auto in func

if no return

auto → void

Strings..

Py - not mutable.

C++ - mutable

~ build from array \rightarrow immutable

File I/O (see deck)

• `open()` test for success reading
`getline(from, as)` ^{named} read 1 line.

[type] Stream name

• `close()` \rightarrow close for garbage collection

or may cause buffer overflow (see more in OOP)

Store in $\text{jab} \xrightarrow{\text{can change to object.}}$ ("file name")

if success $\text{jab} \neq \text{null}$.

if stream: open the file

$\text{jab} \gg \text{sth} \rightarrow$ put jab in sth .

`exit(1)`: terminate / break.

`getline`: readline()

`while (jab >> sth) → keep read
get line → 1 line.`

Vector

like a list with only 1 type
can dynamically increase size.