

+ Control struct

Algebra

Algo

$a = 0$

if $m > 0$
 $a = a + 1$

$a = 3b$

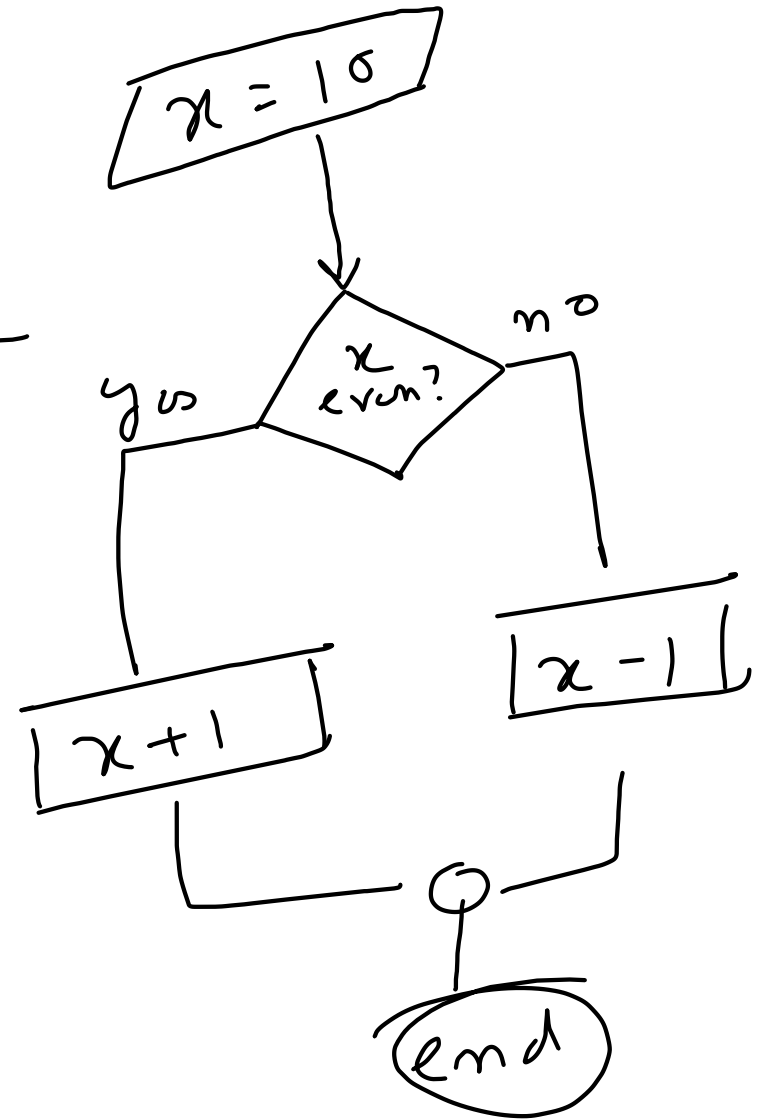
Algorithm

if $a > 3$
 a
else
 a

① Decision → if - else

② Loop →

Flow charts



Start

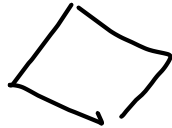
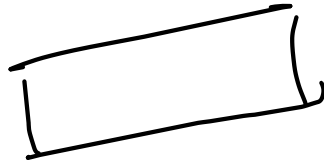
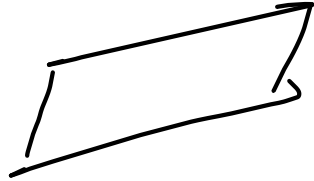
join

input/output

execution

Decision

Control



Print even num. b/w 10, 100

yes
↓
PRINT
no
↓
X

Start

$l=10, u=100$

$i=1$

is $i \% 2 == 0$?

Print i

$i = i + 1$

is $i \leq u$?

$11 < 100$
 $101 < 100$

yes
no
end X
 $101 > 100$

within
CONT
out
stop
index.

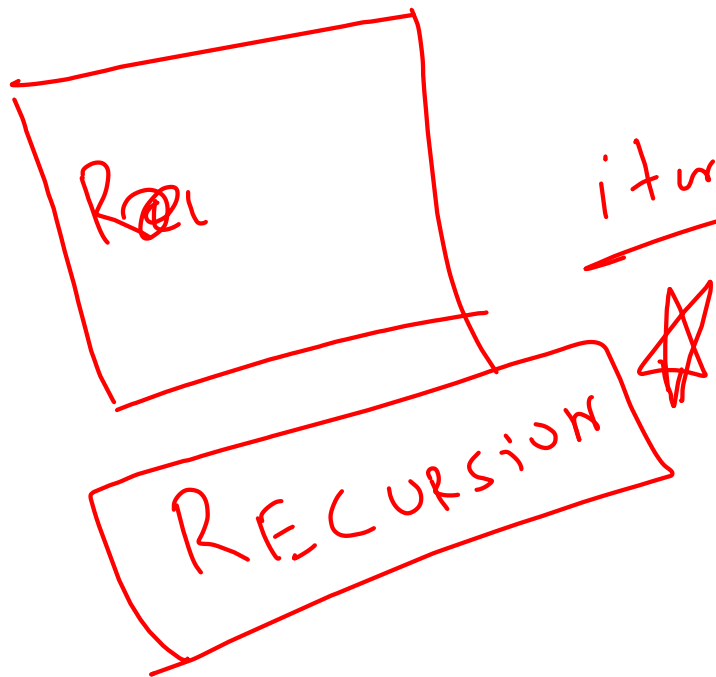
11 % 2
12 % 2 =

Decis

10
 $i=10$
10 12 14 ... 100
 $100 \% 2 == 0$

100

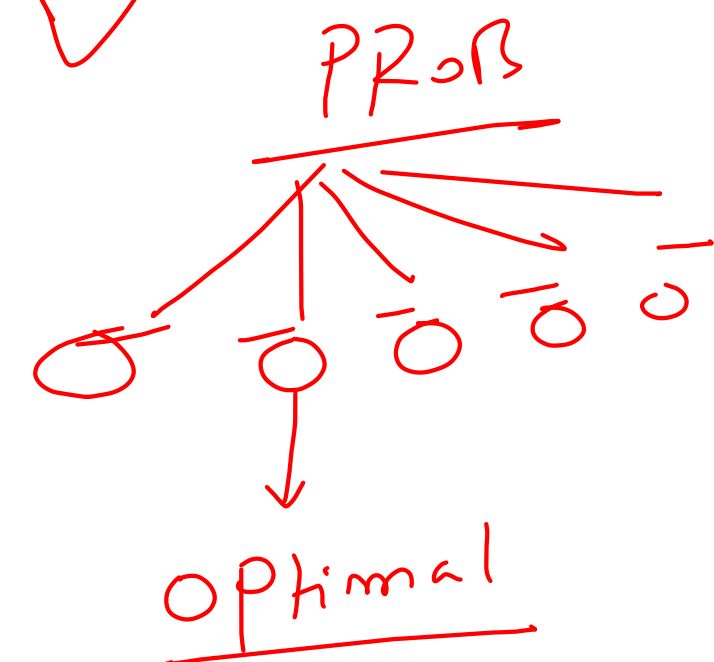
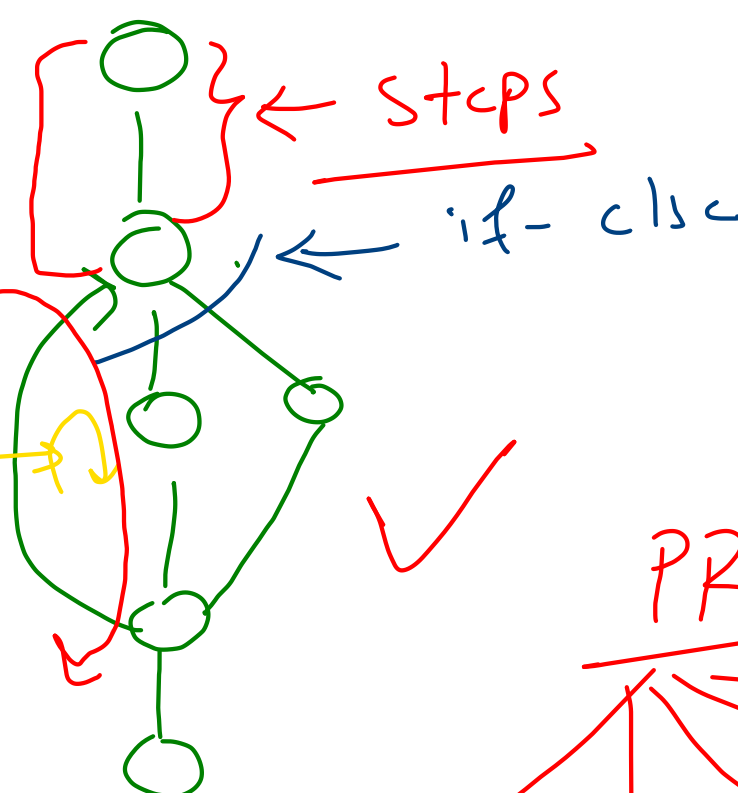
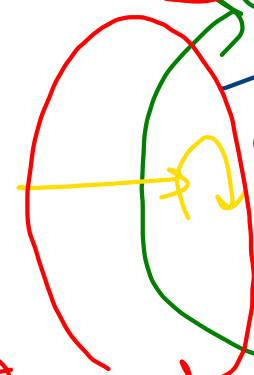
Step
iteration



iteration

PROS

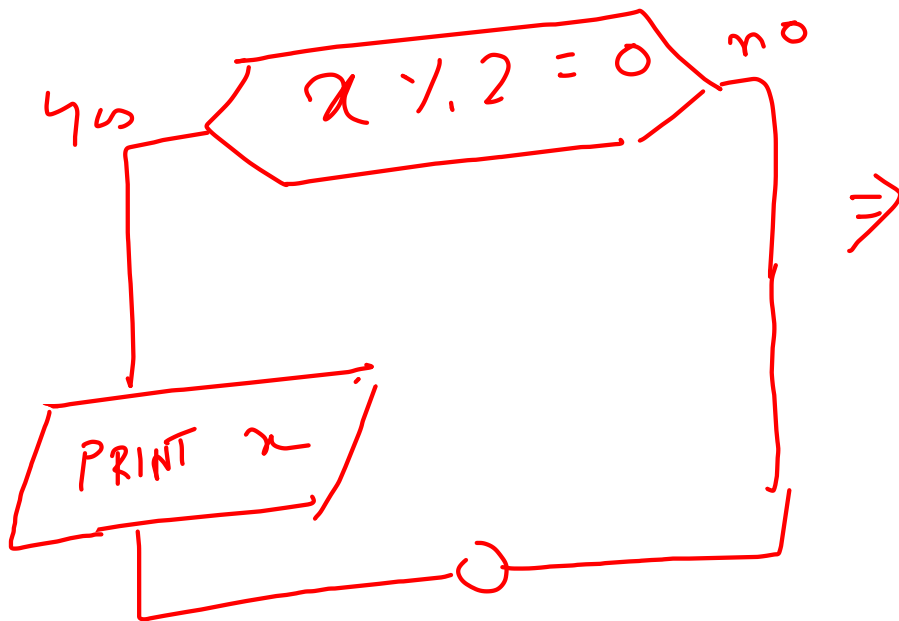
Atomic steps



Python

Dec.

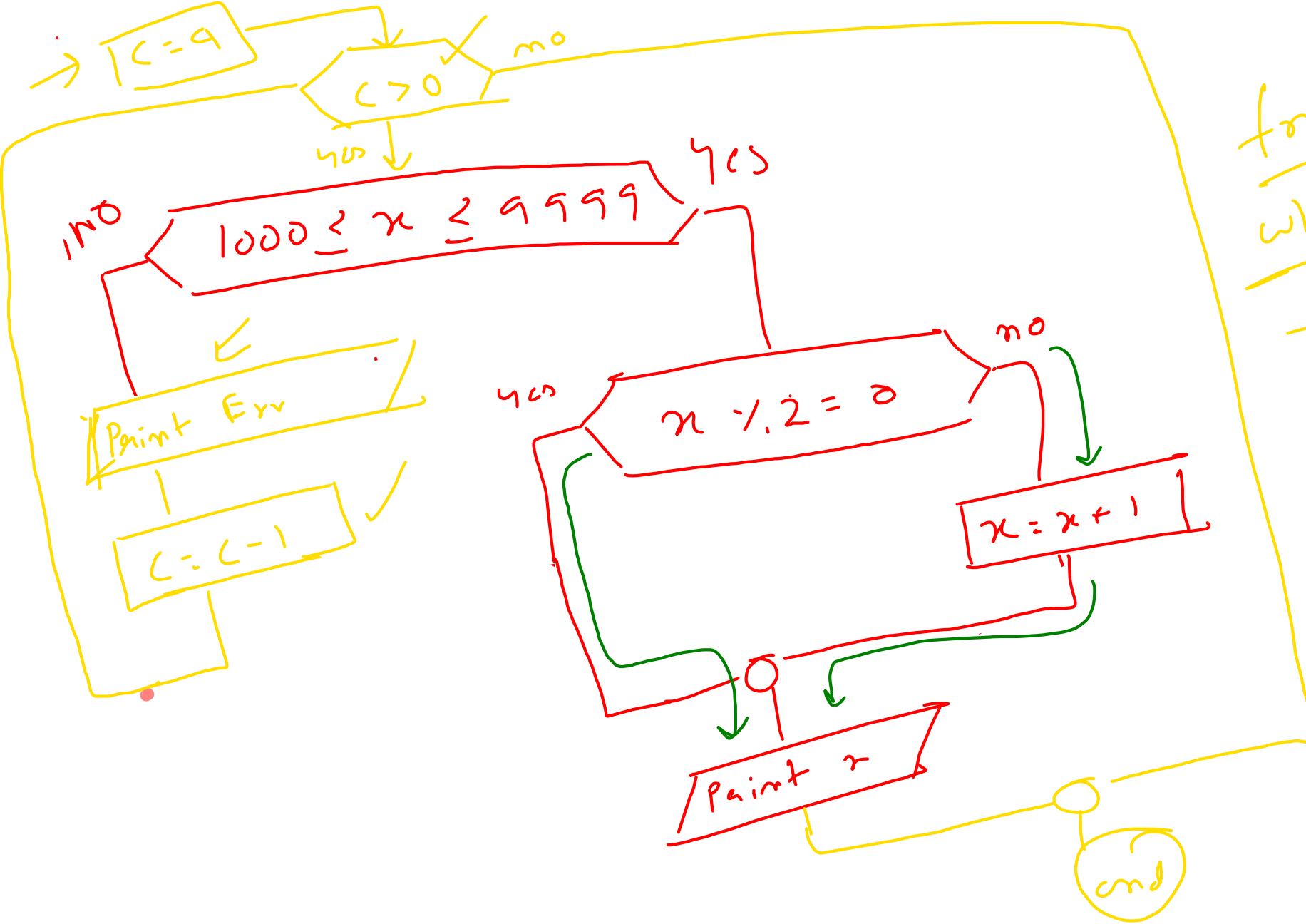
if elif else



}
==
}

if $x \% 1.2 == 0$:
→ Print(x)

if :
→



for ←
while →

$x \in \{ \dots \}$