Tools we know so far:
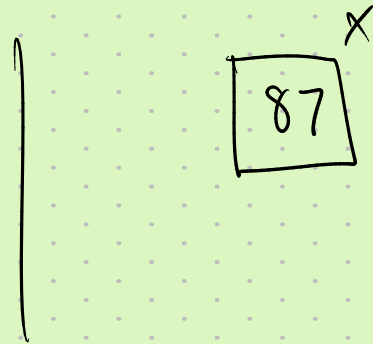
Variables $\approx$ storage box / post it note

Assignment $\approx$ place sth. in box / write on the paper.

Examples:
  int x;
  x = 87;

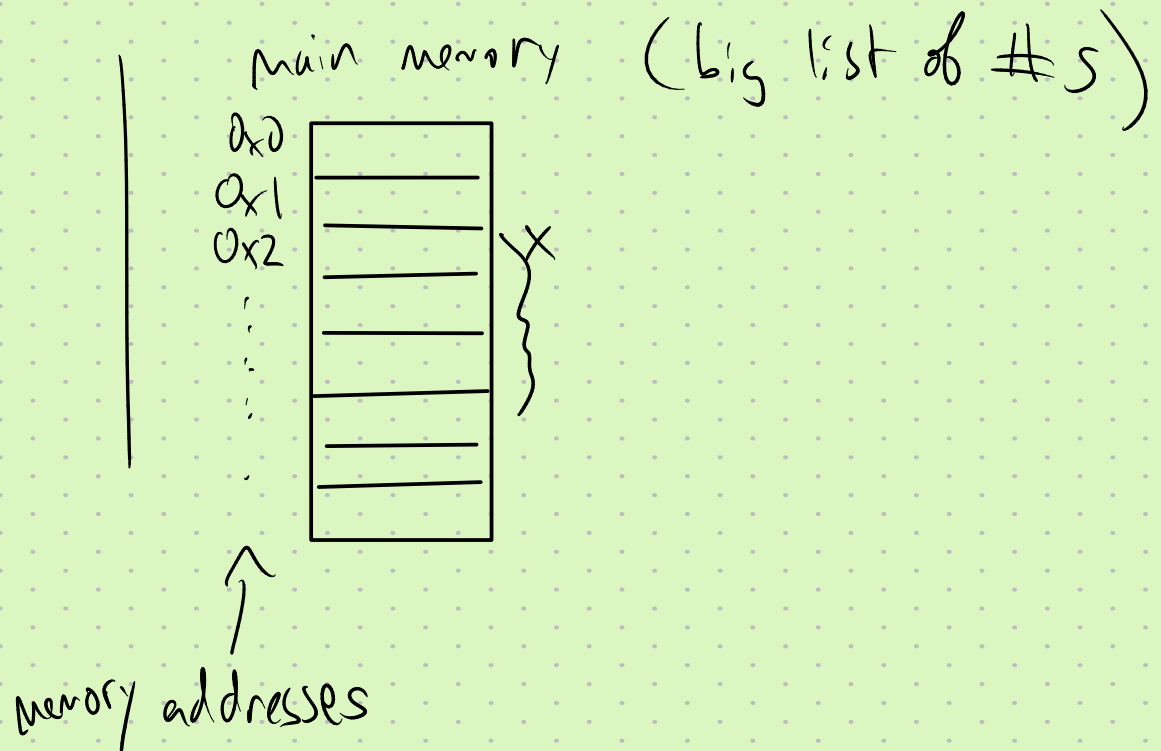87   x

Today: datatypes.   "Shape of your variables"

Also influences their interpretation.

int x;

main memory   (big list of #s)

0x0
0x1
0x2
⋮

x

↑
memory addresses

datatype examples:

int x; $-2^{-31} \leq x < 2^{31}$

unsigned int x; $0 \leq x < 2^{32}$

short x; $-2^{15} \leq x < 2^{15}$

unsigned short x; $0 \leq x < 2^{16}$

char c; $-2^{7} \leq c < 2^{7}$

float f;   (uses scientific notation...
                        $c \cdot 2^{e}$)