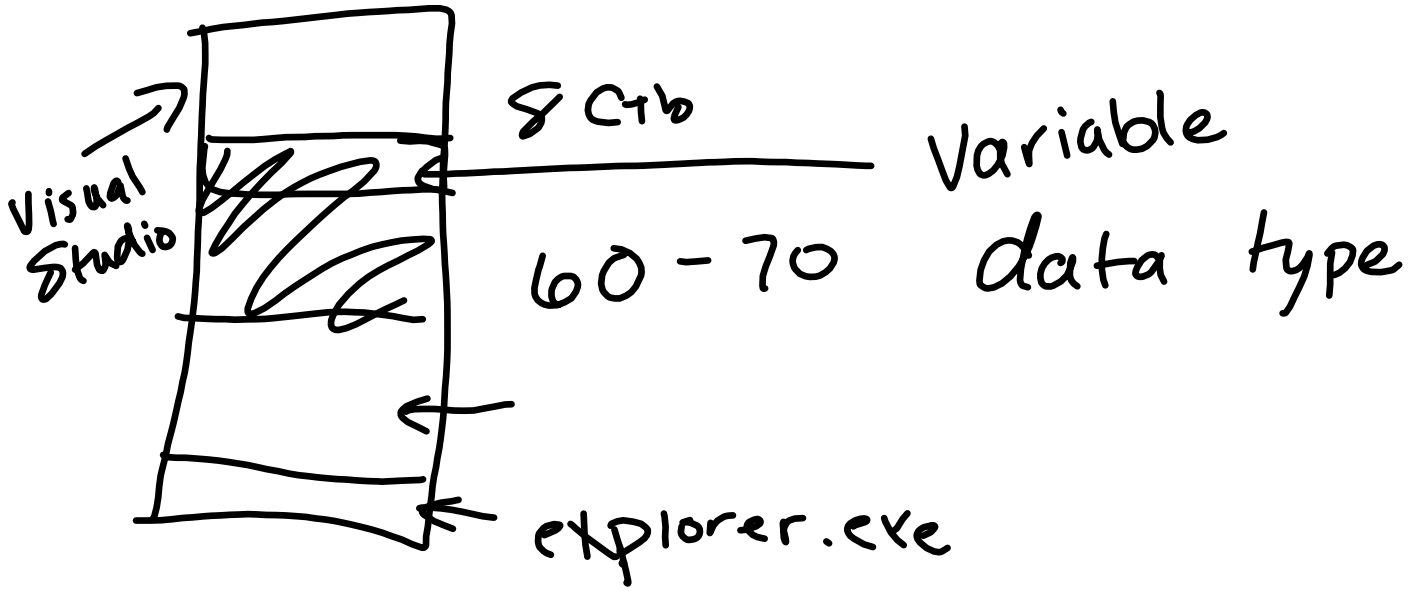
$1\,GB = 2^{30}$

-2 billion $+2$ billion

$= 1,073,741,824$

~~8~~ 1

~~64~~ 8 134 Million Ints Stored on 8 GB


Visual Studio
8 Gb
Variable
60 - 70
data type
explorer.exe

```
int x;
int x1;
int x2...

int x134000700;
```

Variables

- they must start with a letter or an underscore `_`
- they must be descriptive

X3 X5

Assignment

1. given a number that is in the range 5 to 95 "a"
   Subtract that number from a number in the range of 35 to 75 "b"

Variable

- Can contain numbers
- Can not contain spaces

a - b

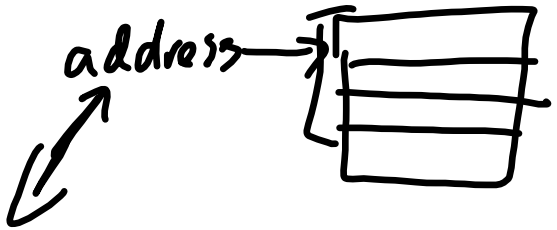
a b : . a - b >= 0

int Range5to95;

Assign Value to Variable

```
int Range5to95; //define
Range5to95 = 22; //assign
int Range35to75 = 63; // define & assign
```

defining



data type

Size of memory needed

variable name i

reference to memory address you use in your language

Once defined until value has been assigned the variable hold "junk values"

"zero out that value"

Whole Numbers

+ - Add -> a + b = c

a - b = c — - sub c - b -> a

c + b -> a

/ - divid

4 / 3 = 1 +

* - multi a * b = c

1 * 3 = 4 c / b = a

% — modulus

4 mod 3 = 1

4 % 3 = 1

4/3

$$3 \overline{)\,4\,} \quad 1 \text{ R: } 1$$

$$-3$$

$$1$$

< > == != >= <=

9 10 11 12 1 2 3 4 5 6 7 8

0 ∞

f(n) = [1 - 12]