C Programs with Mustafa Rahman

Web & Software Developer
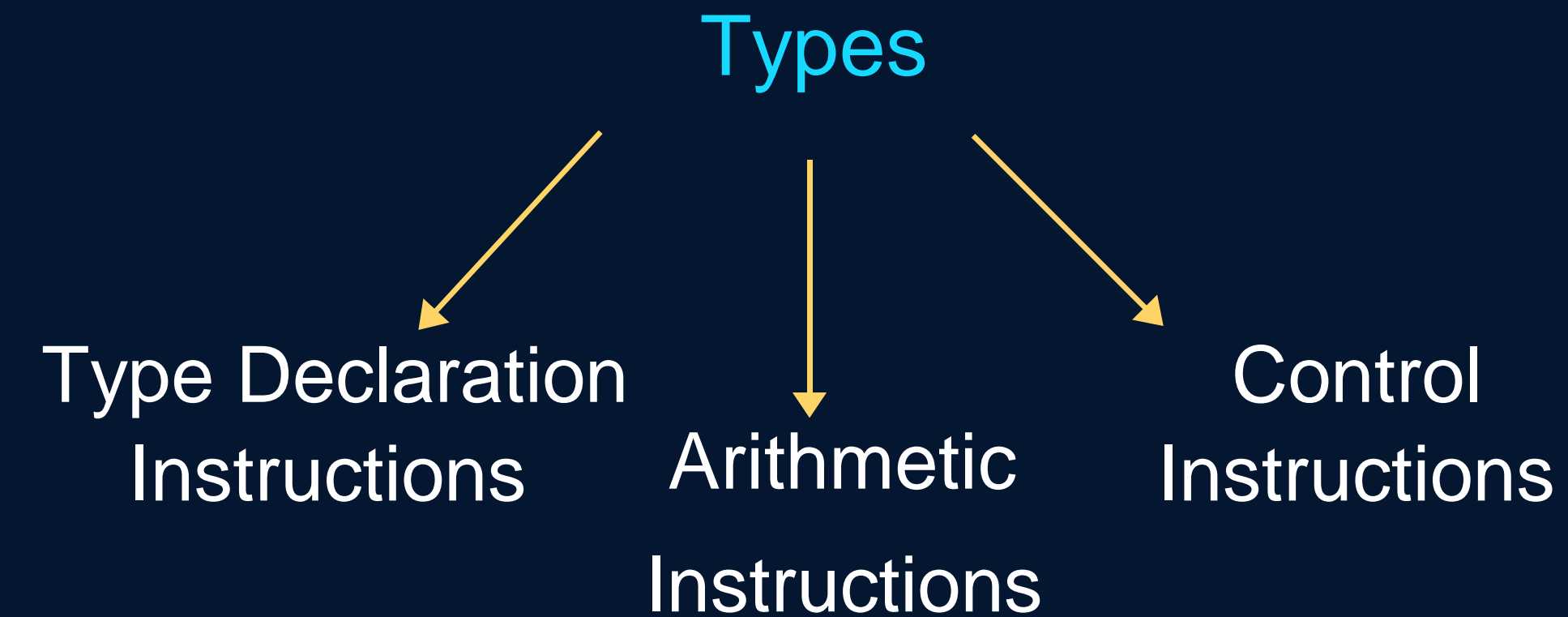
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Instructions

These are statements in a Program

Types

Type Declaration
Instructions

Arithmetic
Instructions

Control
Instructions

Instructions

Type Declaration Instructions ⟶ Declare var before using it

VALID
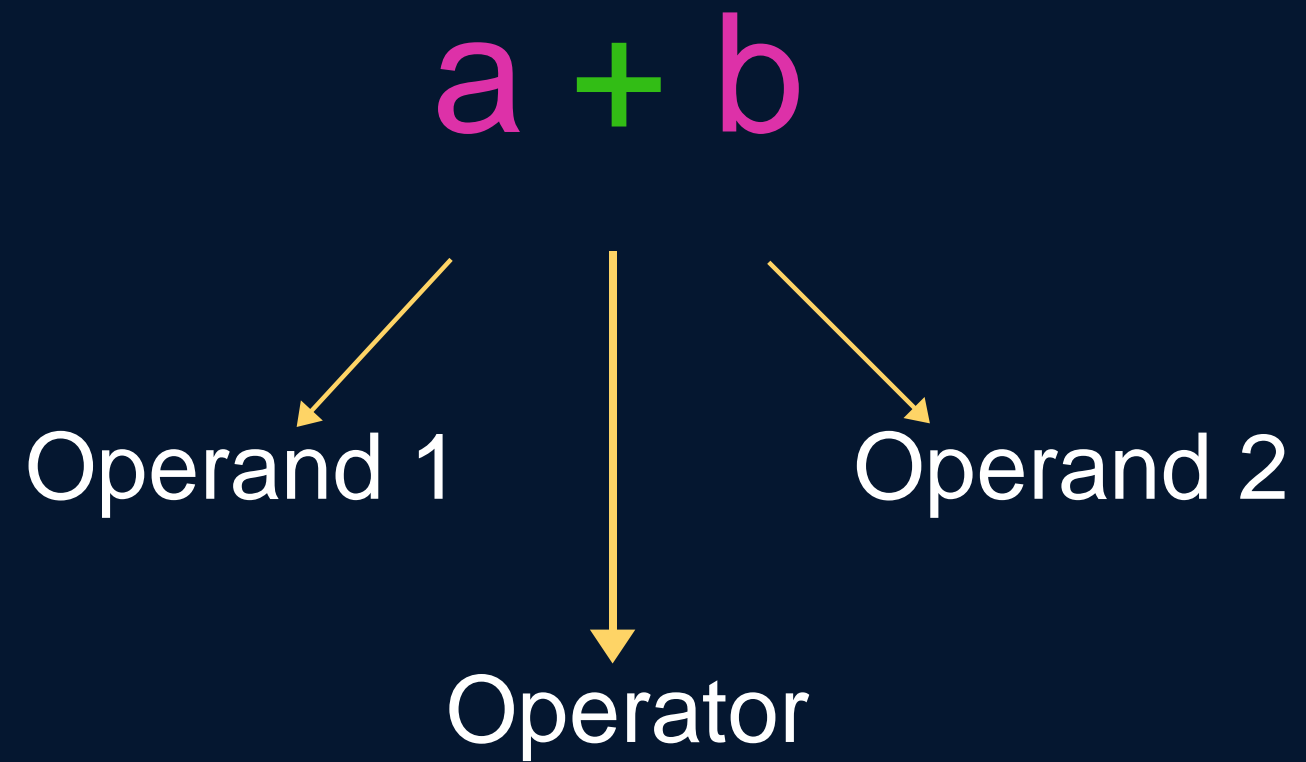
```
int a = 22;
int b = a;
int c = b + 1;
int d = 1, e;


int a,b,c;
a = b = c = 1;
```

INVALID

```
int a = 22;
int b = a;
int c = b + 2;
int d = 2, e;


int a,b,c = 1;
```

Arithmetic Instructions

$$a + b$$

Operand 1   Operand 2

Operator

NOTE - single variable on the LHS

Arithmetic Instructions

VALID

a = b + c

a = b * c

a = b / c

INVALID

b + c = a

a = bc

a = b^c

NOTE - pow(x,y) for x to the power y

Arithmetic Instructions

⭐ Modular Operator %

Returns remainder for int

3 % 2 = 1

-3 % 2 = -1

Arithmetic Instructions

Type Conversion

int   op   int $\longrightarrow$ int

int   op   float $\longrightarrow$ float

float   op   float $\longrightarrow$ float

Arithmetic Instructions

Operator Precedence

*, /, %   x = 4 + 9 * 10

+, -

=   x = 4 * 3 / 6 * 2

Arithmetic Instructions

Associativity (for same precedence)

Left to Right

x = 4 * 3 / 6 * 2

Instructions

Control Instructions

Used to determine flow of program

a. Sequence Control

b. Decision Control

c. Loop Control

d. Case Control

Operators

a. Arithmetic Operators

b. Relational Operators

c. Logical Operators

d. Bitwise Operators

e. Assignment Operators

f. Ternary Operator

Operators

Relational Operators

==

>, >=

<, <=

!=

Operators

Logical Operators

&& AND

|| OR

!   NOT

Operator Precendence

Priority	Operator
1	!
2	*, /, %
3	+, -
4	<, <=, >, >=
5	==, !=
6	&&
7	||
8	=

Operators

Assignment Operators

=

+=

-=

*=

/=

%=

How to I learn and My strategy for Learning

Assignment Operators