

Lecture 02:

C-Programming

Steps in learning C language

English

↳ Alphabets → Words → Sentences → Paragraph

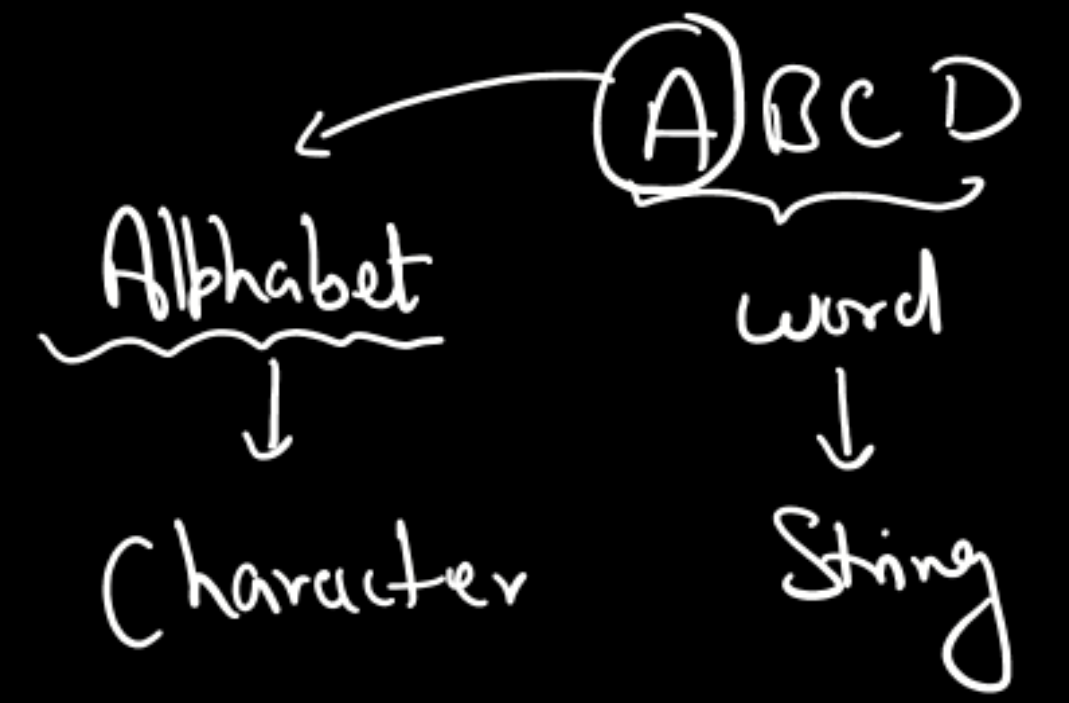
Programming Language

↳ [Alphabets, Digits, Special Symbols] → Constants, Variables, Keywords → Instructions → Program

⇓
Character Set

The C Character Set:

* A Character denotes any alphabet, digit or special characters (symbols) used to represent the information



Allowed Characters & Symbol in C

Alphabets → A, B ... Z, a, b ... z

Digits → 0, 1, 2, 3, 4, 5, 6, 7, 8, 9

Symbols → ~ ' ! @ # % ^ & * () _ = + =

→ : ; " ' < > , . ? /

Column ← Semi-Column

* Paranthoses

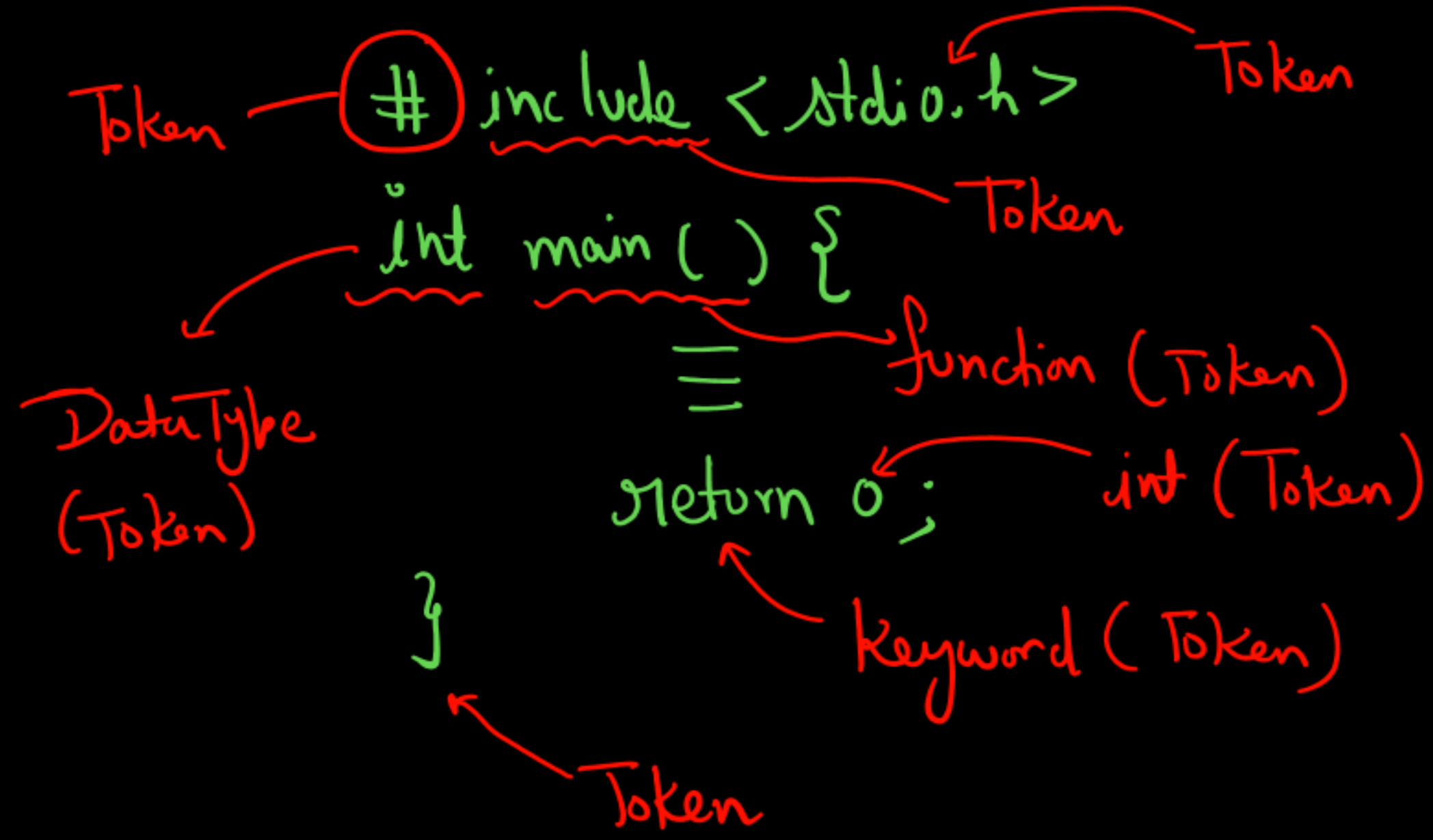
← underscore

OR Curley Braces Square Brackets

| \ { } []

Tokens:

↳ The smallest individual units are known as Tokens.



6 types of Tokens

- Identifiers
- Keywords
- Constants
- Strings
- Special Symbols
- Operators

इन सब चीजों को
जोड़कर program बनाया है,

Keywords :

→ Keywords are the reserved words by the Compiler.

→ They have their special meanings.

→ We can not use the keywords to set a variable, constant, function name etc.

→ There are 32 keywords in C language.

auto	break	case	char	const	continue	default	do	double	enum
else	extern	float	for	goto	if	int	long	return	<u>register</u>
signed	short	static	struct	switch	typedef	union	unsigned	void	
volatile	while	sizeof							

* Keywords are always in lower-case
↳ small letters.

Identifiers:

↳ Identify (पहचान)

→ Identifiers are the name of Variable, Constants, function, arrays etc.

↳ User-defined

↳ we set the identifiers

⇒ The identifier are defined against a set of Rules
↳

Rules to declare an Identifier

OR Rules to declare variable names

★ An Identifier can only have alphanumeric Characters or underscore.

↓
alphabet + Numbers
(a to z) ↓
(A to Z) (0 to 9)

↓
a _ b
↓
underscore is considered as an
alphabet (character)

Ex ABC123 , A1B2C3 , abc , def , _abc etc.

★ The first letter of the identifier must be an alphabet or underscore.

↓
Can not be a number

Ex ABC123 → Allowed

_AB24 → Allowed

↓
1AB2B → NOT allowed

* Identifiers are Case sensitive.

↳ It can determine Capital & Small letters.
↳ Compare

Ex: aditi, Aditi, ADITT, aDiTi, AdItI all are different

* Keywords are NOT allowed to setting up an identifier

for = 50; ← NOT allowed

x = 50; ← allowed

* No Special Characters (except Underscore) are allowed.

↳ Symbols including whitespace

* C Compiler can recognise only first 31 Characters of an Identifier
↓
allowed

Valid and Invalid Identifiers:

StudentName ← Valid

Sub ← Valid

Total_Marks ← Valid

\$address ← Invalid
↳ No special character allowed

-123 Char
↳ Valid

Y2M ← Valid

First Name ← Invalid
↳ No space allowed

Return & return are different

Return ← Valid

Underscore return ← Invalid
↳ return is a keyword

-x ← Valid

y- ← Valid