C language

- Syntax
- Comments
- Variables
- Data types
- Constants
- Operators
- Output
  - New lines
  - Print a text

- Input
  - Get an integers
  - Get a character

- If .. else
- Switch
- While loop
- Do while loop
- For loop
- Break / continue

```
break
continue
```

- *Arrays*

  Integers

  Declaring and initializing array variables
  Input and output
  Size of the arrays using `sizeof()`
  Sum and product of array numbers
  Find minimum & maximum numbers in the array

  Strings

  Declaring and initializing a string variables
  String Input and Output
  String Handling Functions

Method	Description
Strcat()	It is used to concatenate(combine) two strings
Strlen()	It is used to show the length of a string
Strrev()	It is used to show the reverse of a string
Strcpy()	Copies one string into another
Strcmp()	It is used to compare two string

- *Pointers*

  what are the pointers?

  A “variable-like” reference that holds a memory address to another variab
  etc.

Some tasks are performed more easily with pointers

Advantages of pointers:

- ✓ Less time in program execution
- ✓ Working on the original variable
- ✓ With the help of pointers, we can create data structures such as (linked list, stacks, queues...)
- ✓ Returning more than one value from function
- ✓ Searching and sorting large data very easily
- ✓ Dynamically memory allocation

Examples:

- *Functions*
  - Function parameters
  - Function declaration
  - Recursion
  - *Math functions*

Function	Description
abs(x)	Returns the absolute value of x
acos(x)	Returns the arccosine of x
asin(x)	Returns the arcsine of x
atan(x)	Returns the arctangent of x
cbrt(x)	Returns the cube root of x
cos(x)	Returns the cosine of x
exp(x)	Returns the value of Ex
sin(x)	Returns the sine of x (x is in radians)
tan(x)	Returns the tangent of an angle

- *Structures*

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