

Function Pointers In C - C Tutorial In Hindi #72.mp4 - VLC media player

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POINTERS

Quick Review

int a = 3;
*int * ptr = &a*

**ptr* *(*) ptr* → 3

- ✓ A pointer is a variable which stores address of another variable
- ✓ & symbol is used to get the address of the variable.
- ✓ * symbol is used to get the value of the variable that the pointer is pointing to.
- ✓ In C, we can create generic pointers too
- ✓ Regular C variable stores the value whereas pointer stores the address of the variable.

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DYNAMIC MEMORY ALLOCATION: RECAP

- ✓ An statically allocated variable or array has a fixed size in memory.
- ✓ **Dynamic Memory Allocation** is a way in which the size of a data structure can be changed during the runtime.
- ✓ Memory assigned to a program in a typical architecture can be broken down into four segments:

1. Code
2. Static/global variables
3. Stack
4. Heap



The diagram shows four stacked rectangular boxes representing memory segments. From top to bottom: a pink box labeled 'Heap', a red box labeled 'Stack', a green box labeled 'Global & Static Variables', and a blue box labeled 'Code'. A small red asterisk is positioned to the left of the 'Stack' box.

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FUNCTION POINTERS

*int a = 4's
int *ptr;*

*int a;
float b;
char c;* ⇒ *machine code*

Ass: 1 ins = 4 bytes

- ✓ We can have pointers pointing to functions as well
- ✓ Function pointers are useful to implement callback functions
- ✓ Compiler takes one or more source files and converts them to machine code.

*int (*p)(int, int);*
p = &func1;

declaration definition

200	Ins 1
→ 204	Ins 2
208	Ins 3
212	Ins 4

+

Memory Stack:

- Heap
- Stack
- Global & Static Variables
- Code

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here "here" means for instruction