

ForNextDay3

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Regions of Memory

The four regions of memory include "Executable" which contains the content of the binary executable, this is located at the top of the process memory. The next region of memory is "Data" where the global and static variables are stored. Following that is the "Heap" which allows dynamic variables to request memory during run-time. The final region of memory is "Stack Memory" where local variables are stored. Stack Memory also contains a stack frame for each function call in which variables related to that function are stored.

Stack Memory Explanation

Stack memory works by creating stack frames where variables created in each function are stored. As it is a stack the first stack frame is the last to be deallocated, this is why you can pass a value into "main(int example)" then call "printf("%d", example)" as many times as you want. The variable "example" is stored in a stack frame below the stack frames created for each function call and is therefore available to be used even after the "printf()" stack frames have been removed.

Stack Frame Drawing

Symbol	Address	Value
c	0xffff	garbage
i	0xfffe	garbage
d	0xfffa	garbage
iArr	0xffea	garbage