

Re: what is a stack

Source: <http://coding.derkeiler.com/Archive/Java/comp.lang.java.programmer/2004-07/2030.html>

thufir.hawat_at_mail.com

Date: 07/16/04

Date: Thu, 15 Jul 2004 22:10:11 -0700

There's FILO and FIFO, they're both implemented as a regular old array (at least as I learned it in FORTRAN).

////////////////////////////////begin trivia////////////////////////////////

FILO

if you enter [a,b,c,d] into a FILO array and then remove the elements, you'll remove them as [d,c,b,a], which'd be how they were entered. this is a stack. Consider a stack of plates in a cafeteria, plate "a" was put on the stack first so it's on the bottom, and is the last one off.

FIFO

The reverse of a stack, aka a queue. If you enter [a,b,c,d] into a queue you'd access them by pop(queue) which'd return an element. the element's be returned in order of [a,b,c,d]. Think of standing in a queue at a bank (as lotsa foreigners use the word queue (no offense to you foreigners intended)): whoever's standing in line longest get's to the teller. The inverse function of pop(queue) is push(element); ie push(e) would put "e" at the end of the queue.

It get's more interesting when you use a second array to keep the place of the nodes, which allows you to make circular lists, or even circular linked lists.

In java, nowadays, it's all academic. The collections do all this low-level stuff behind the scenes and use a consistent API to make it portable.

////////////////////////////////end trivia////////////////////////////////

I think you're not really referring to stacks and queues in java per se, but the heap and queue's in memory or something. AFAIK this is totally opaque in java, so, in a sense, isn't "necesarry" to know. I think it's related to garbage collection, which, in general, you're not supposed to have to deal with. OTOH the more you know the better.

HTH,

Thufir Hawat