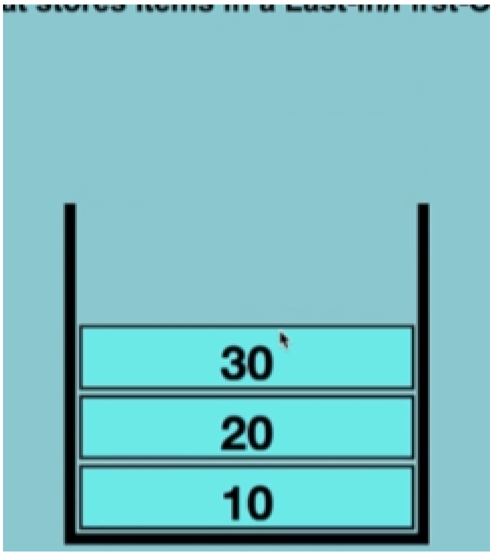
Stack & Queue

- Collection of objects pile up vertically!
- Last in/ First Out
- Real world: Plates on each other/ bangles in hand!

How look like in CS?

- LIFO Method: Last In First Out!
- For exp. Here if ya wanna remove 30 from this stack, its not possible directly! Its only possible when you first remove 40!

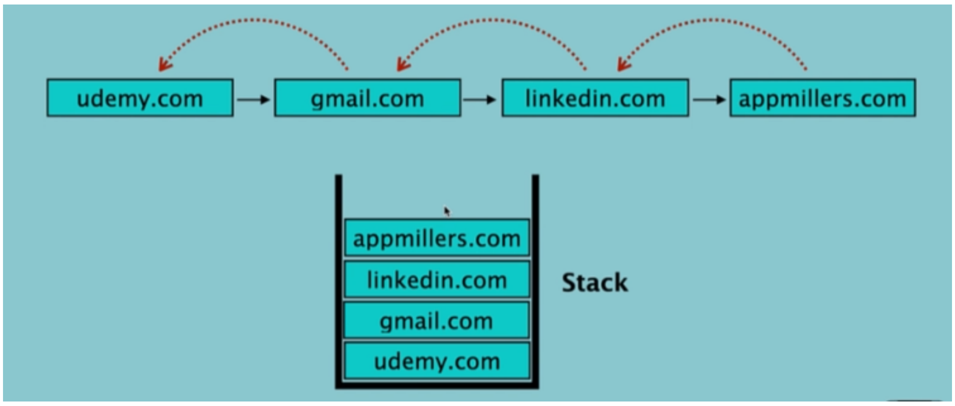


Why we need Stack?

- Real-world exp: Back Bottom in a browser!

leetcode.com/explore/interview/card/top-interview-questions-easy/127/strings/

- Here if ya click the “back bottom” what it goes back to the former visited websites all them way to the one that at the beginning of day ya visited first! So, in order to reach the first site ya need to go back one by one! Ya cant reach first directly!



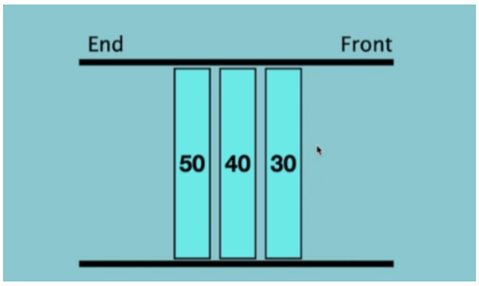
Creating Stack w/ List:

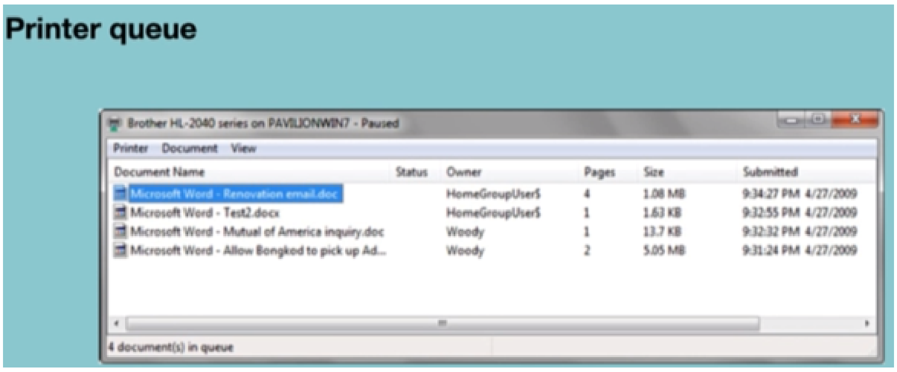
- Easy implementation
- Can run into speed issues! The items stored next to each other in the memory so this means if the size of our stack increases then the block of memory needed should be growing! And its a very time-consuming task!

Creating Stack w/ LinkedList:

- Memory allocation is not required since LL elements are not located contiguously!
- Implementation is not easy!

Queue:





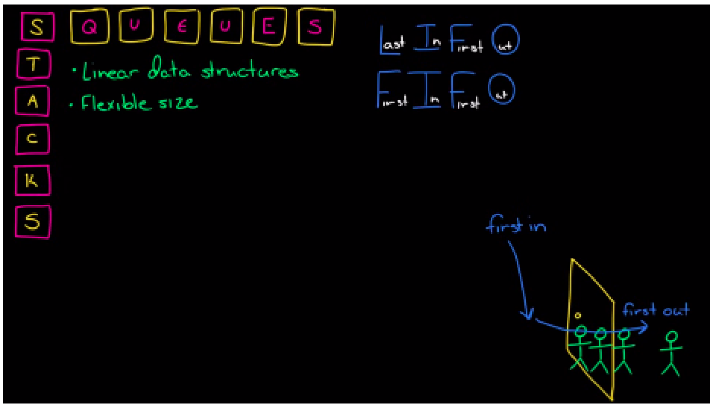
Printer queue

Brother HL-2040 series on PAVILIONWIN7 - Paused

Document Name	Status	Owner	Pages	Size	Submitted
Microsoft Word - Renovation email.doc		HomeGroupUser$	4	1.08 MB	9:34:27 PM 4/27/2009
Microsoft Word - Test2.docx		HomeGroupUser$	1	1.63 KB	9:32:55 PM 4/27/2009
Microsoft Word - Mutual of America inquiry.doc		Woody	1	13.7 KB	9:32:32 PM 4/27/2009
Microsoft Word - Allow Bongkod to pick up Ad...		Woody	2	5.05 MB	9:31:24 PM 4/27/2009

4 document(s) in queue

Difference Stack vs. Queue:



STACKS

QUEUES

- Linear data structures
- Flexible size

Last In First Out

First In First Out