Monkey Theorem

1. initialize empty string
2. generate Random characters → Same as length of target string

---

* Data structures.
* Object oriented programming.

Big (O)

order of magnitude.

Q) How to measure the effeciency of an algorithm.

→ No. of operations is not important.

→ Determining the most imp part of a program / algorithm.

$T(n)$ = no. of assignments in the program.

NOTE { loop within a loop → n^2 }

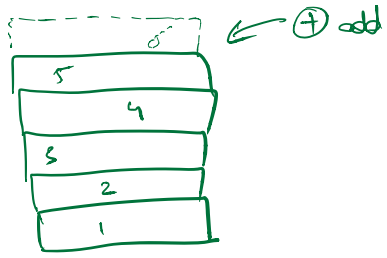
Data structure: ← what's the difference (??)

Abstract data Type (ADT) : Type of data model where implementation is not a concern.

ADT only looks at front end of things → not concerned about how it works → Eg. sum() function.

Stack. → ordered collection of data.

→ can be used to reverse the order.



~~Eg:~~ web browser. → next / Back button.

home page is top of stack.

add to stack → S.push('...')

checks if stack is empty → S.isEmpty() ← True / False.

returns top value on stack → S.Peek

removes top value of stack → S.pop()

Application of stack. Converting from Decimal to Binary

NOTE

$223_{(10)}$

↳ Base 10 decimal system.

$11101001_{(2)}$

↳ Base 2 Decimal

$233 // 2 \xrightarrow{R=1} 116$

$116 // 2 \xrightarrow{R=0} 58$

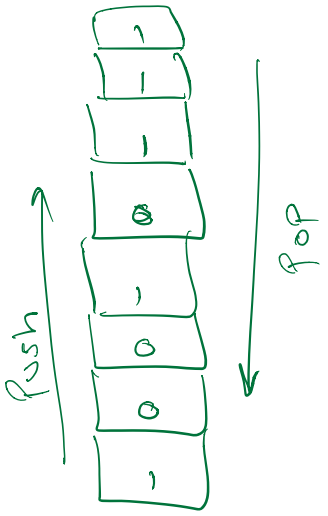
$\equiv$

$1 // 2 \xrightarrow{R=1} 0$

NOTE:

Binary is remainders from bottom to top. when dividing.

Binary in stack.



stack overflow → memory full ? { How when why }

Queue. → eg. printing jobs (→ queue.)

Queue operations.

is empty ()

q. enqueue () → adding to queue.

q. dequeue () → removes 1st value.

NOTE! Can iterate but cannot jump in the middle of a stack or queue.