Mark & Sweep Algorithm

Phase 1: Mark all reachable cells \( discovered = \text{true} \) \( \text{means marked} \)

Phase 2: Sweep (go through) all of memory & any cell unmarked is placed on front of free list
Should we use BFS or DFS to minimize space?

Queue (BFS) or Stack (DFS) need enough space to hold a queue/stack as big as memory
Use DFS where stack is held within the memory!

X marked

Before garbage collection
Restore memory to how it began

Stack 6, 5, 4, 3, 2, 1
Global vars (top, pred, temp)
Time complexity: $O(M+A)$

$M$ be the # of memory cells

$A$ be the # of accessible (reachable) cells

$M-A$ cells of garbage

Mark Phase: $O(A)$ each accessible cell has at most 2 edges

Sweep Phase: $O(M)$