

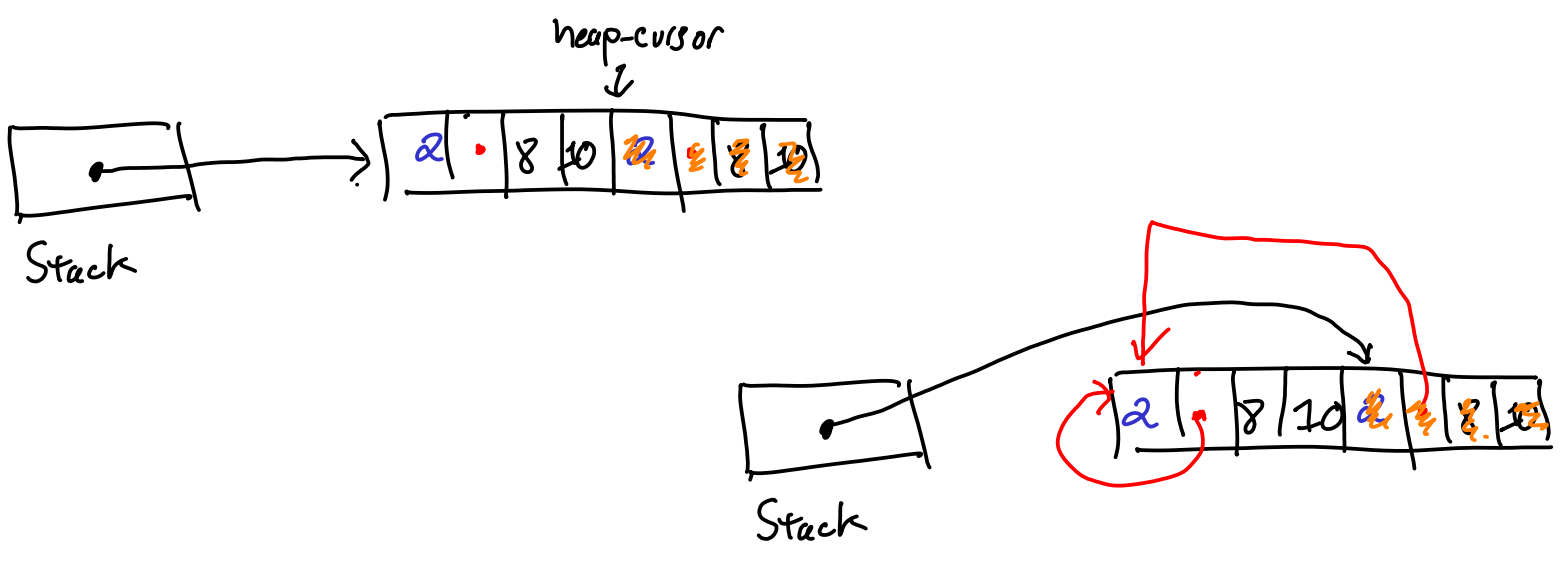
Foxsnake Bug

make room for args ← EDX = size of args
→ copy args onto stack
→ put last arg onto stack
call
remove args from stack ← using EDX (bad) to fix stack

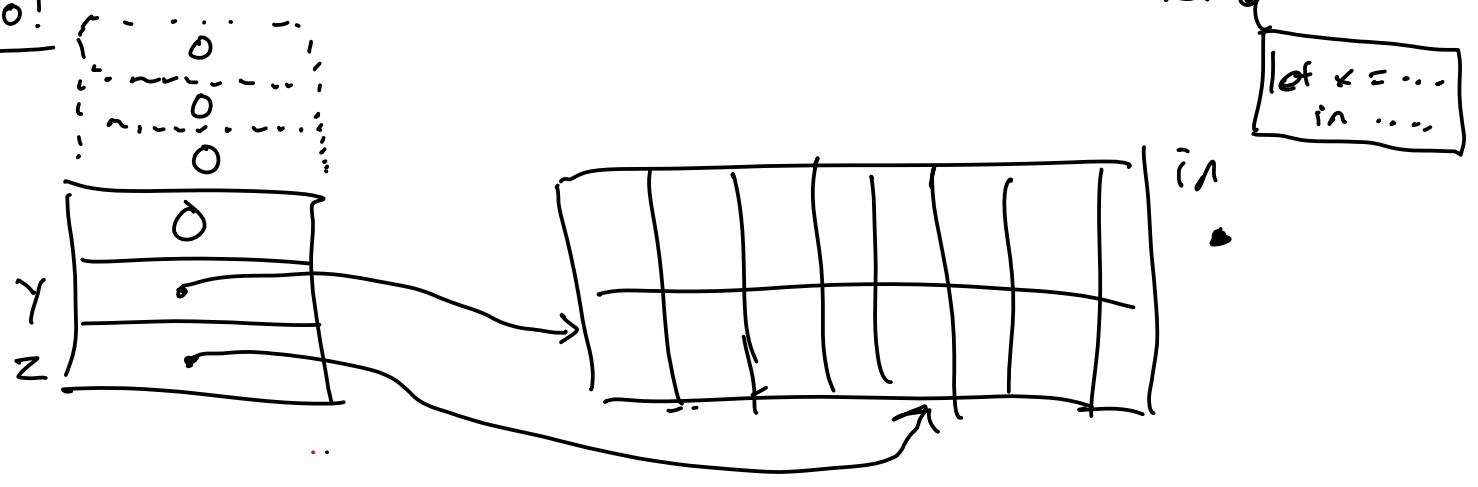
Mark-Compact

GC algorithm

- 1. Mark — note (in GC word) obj can be reached
 - 2. Forward — for each reachable obj, pick new position
 - 3. Update — change existing ptrs to point to new obj locs
 - 4. Compact — actually move!
 - 5. Remark — set every GC word to 0
- find everything* (bracketed around steps 1-2)
- move everything* (bracketed around steps 3-4)



Zero!



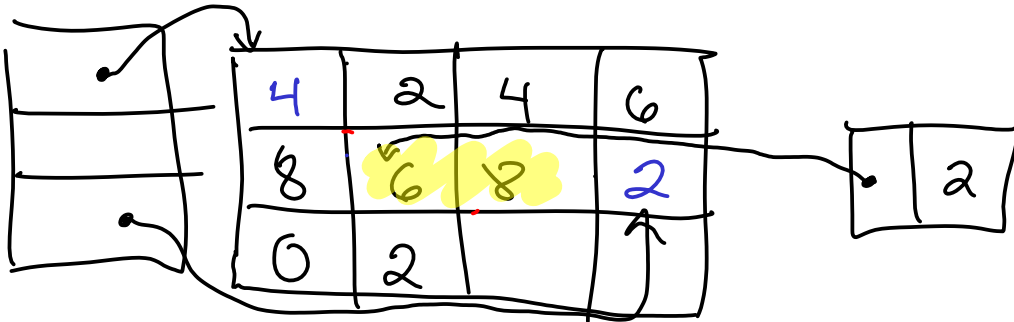
Manual Memory Management

C Serpent

has all of Foxsnake

+ "free"

castToPointer

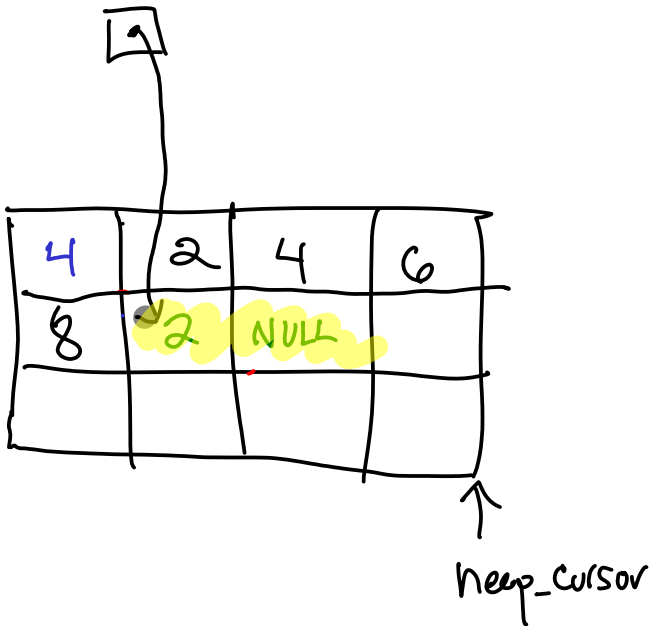


let t = (2, 3) ← allocates
free(t); 4

free block list

Heap Fragmentation

maintain block list



MM Decisions

- Guarantees?
- Who frees memory?
- Track memory usage?
- Runtime conclusions?
- Problematic usage?