MEMORY USAGE PERCOLATION

PERCOLATION QUICK FIND:

Quick Find – 2 arrays + 4 ints(in union)

$= 56+8(n^2+1) + 56+8(n^2+2) +4(28)+32$

$= 256+ 8(n^2+1) + 8(n^2+2)$

$= 280 + 16(n^2)$ bytes

Percolation –

- Init: 2 ref to qf + 4 ints (size, openCount, Vtop and Vbottom) + list of booleans = 2(8) + 4(28) + 56 + $8(n^2)$ = $184 + 8n^2$ bytes
- Open: 7 ints (top, bot, left, right, idx, rowidx, colidx) 7(28) = 196 bytes
- is_open: 3 ints 3(28) = 84 bytes
- is_full: 3 ints 3(28) = 84 bytes
- animate: 1 int -> 28 bytes
- total perc: $576 + 8n^2$ bytes

TOTAL = $280 + 16n^2 + 576 + 8n^2 = 856 + 24n^2$ bytes ~$24n^2$

PERCOLATION WQU:

Weighted quick Union – 4 arrays + 4 ints(in union)

$= 56+8(n^2+1) +56+8(n^2+1) + 56+8(n^2+2) +56+8(n^2+2) +4(28)$

$= 336 + 16n^2 +16 + 16n^2 +32.$

$= 384 + 32n^2$ bytes

Percolation –

- Init: 2 ref to wqu + 4 ints (size, openCount, Vtop and Vbottom) + list of booleans= 2(8) + 4(28) + 56 + $8n^2$ = $184 + 8n^2$ bytes
- open: 7 ints (top, bot, left, right, idx, rowidx, colidx) 7(28) = 196 bytes
- is_open: 3 ints 3(28) =84 bytes
- is_full: 3 ints 3(28) = 84 bytes
- animate: 1 int -> 28 bytes
- total perc: $576 + 8n^2$ bytes

TOTAL = $384 + 32n^2 + 576 + 8n^2 = 960 + 40n^2$ bytes ~$40n^2$