

| Step | IC | MBR | IBR | MAR | MQ | AC | MEMORY | | |
|---------|----|----------------|----------------|-----|----|----|--------|-------|-------|
| | | | | | | | [300] | [301] | [302] |
| Initial | 0 | — | — | — | — | — | 3 | null | null |
| 1 | 1 | LOAD M(x) 300 | ADD M(x) 300 | 300 | — | — | 3 | null | null |
| 2 | 1 | LOAD M(x) 300 | ADD M(x) 300 | 300 | — | 3 | 3 | null | null |
| 3 | 1 | — | — | 300 | — | 6 | 3 | null | null |
| 4 | 2 | STORE M(x) 301 | DIV M(x) 300 | 301 | — | 6 | 3 | null | null |
| 5 | 2 | STORE M(x) 301 | DIV M(x) 300 | 301 | — | 6 | 3 | 6 | null |
| 6 | 2 | — | — | 300 | — | 2 | 3 | 6 | null |
| 7 | 3 | LOAD MQ | STORE M(x) 302 | 302 | — | 2 | 3 | 6 | null |
| 8 | 3 | LOAD MQ | STORE M(x) 302 | 302 | 0 | 0 | 3 | 6 | null |
| 9 | 3 | LOAD MQ | STORE M(x) 302 | 302 | 0 | 0 | 3 | 6 | 0 |

1. AC was loaded with 3 & updated to 6 after addition
2. AC was then divided by 3 to yield 2, and later reset to 0 after loading from MQ
3. Memory [301] stores 6, and Memory [302] stores 0

INSTRUCTIONS:

1. LOAD M(x) 300, ADD M(x) 300
2. STORE M(x) 301, DIV M(x) 300
3. LOAD MQ, STORE M(x) 302

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300 — 3

301 — null

302 — null