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C:\Users\kautu\AppData\Local\Programs\AdoptOpenJDK\bin\java.exe "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2020.2\lib\idea_rt.jar=60806:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2020.2\bin" -Dfile.encoding=UTF-8 -classpath D:\this\CA\a1\myjava\out\production\myjava Test

Memory before operations...
Line 0: 00001001000000000111000010100000000000000
Line 1: 00000010000000001000000000110000000001001
Line 2: 00000100000000001010000011010000000000100
Line 3: 11111111000000000000000000000000000000000
Line 4: 00000111000000001010000010000000000001000
Line 5: 00001100000000001011000010100000000000000
Line 6: 00010101000000000000111111110000000000000
Line 7: 00000000000000000000000000000000001100100
Line 8: 10000000000000000000000000000000000110010
Line 9: 00000000000000000000000000000000000001010
Line 10: 10000000000000000000000000000000000001010
Line 11: 00000000000000000000000000000000000001011

IBR is empty
Address of PC = 000000000000
Address of MAR = 000000000000
Address of MBR = 00001001000000000111000010100000000000000
Address of IBR = 000010100000000000000
Address of IR = 00001001
Address of MAR = 000000000111
PC incremented to 000000000001 (1)
The instruction is 00001001
LOAD MQ, MX: MQ <-- M[X]
Contents of M[X] = 00000000000000000000000000000001100100 (100)
Contents of MQ before op = empty
Contents of MQ after op = 00000000000000000000000000000001100100 (100)
IBR is not empty
Address of IR = 00001010
Address of MAR = 000000000000
The instruction is 00001010
LOAD MQ: AC <-- MQ
Contents of MQ =
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35 000000000000000000000000000000001100100 (0)
36 Contents of AC before op = empty
37 Contents of AC after op =
   000000000000000000000000000000001100100 (100)
38 IBR is empty
39 Address of PC = 000000000001
40 Address of MAR = 000000000001
41 Address of MBR =
   000000100000000010000000011000000001001
42 Address of IBR = 000000110000000001001
43 Address of IR = 00000010
44 Address of MAR = 000000001000
45 PC incremented to 000000000010 (2)
46 The instruction is 00000010
47 LOAD -MX: AC <-- -M[X]
48 Contents of AC before op =
   000000000000000000000000000000001100100 (100)
49 Contents of AC after op =
   000000000000000000000000000000000110010 (50)
50 IBR is not empty
51 Address of IR = 00000011
52 Address of MAR = 000000001001
53 The instruction is 00000011
54 LOAD |MX|: AC <-- |M[X]|
55 Contents of AC before op =
   000000000000000000000000000000000110010 (50)
56 Contents of AC after op =
   000000000000000000000000000000000001010 (10)
57 IBR is empty
58 Address of PC = 000000000010
59 Address of MAR = 000000000010
60 Address of MBR =
   000001000000000010100000110100000000100
61 Address of IBR = 00001101000000000100
62 Address of IR = 00000100
63 Address of MAR = 000000001010
64 PC incremented to 000000000011 (3)
65 The instruction is 00000100
66 LOAD -|MX|: AC <-- -|M[X]|
67 Contents of AC before op =
   000000000000000000000000000000001010 (10)
68 Contents of AC after op =
   100000000000000000000000000000001010 (-10)
69 IBR is not empty
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```
 70 Address of IR = 00001101
 71 Address of MAR = 000000000100
 72 The instruction is 00001101
 73 JUMP M(X, 0:19)
 74 PC changed to 000000000100 (4)
 75 IBR is empty
 76 Address of PC = 000000000100
 77 Address of MAR = 000000000100
 78 Address of MBR =
    00000111000000001010000010000000000001000
 79 Address of IBR = 00001000000000001000
 80 Address of IR = 00000111
 81 Address of MAR = 000000001010
 82 PC incremented to 000000000101 (5)
 83 The instruction is 00000111
 84 ADD |M[X]|
 85 Contents of M[X] =
    10000000000000000000000000000001010 (-10)
 86 Contents of AC before op =
    10000000000000000000000000000001010 (-10)
 87 Contents of AC after op =
    10000000000000000000000000000000000 (0)
 88 IBR is not empty
 89 Address of IR = 00001000
 90 Address of MAR = 000000001000
 91 The instruction is 00001000
 92 SUB |M[X]|
 93 Contents of M[X] =
    10000000000000000000000000000110010 (-50)
 94 Contents of AC before op =
    10000000000000000000000000000000000 (0)
 95 Contents of AC after op =
    10000000000000000000000000000110010 (-50)
 96 IBR is empty
 97 Address of PC = 000000000101
 98 Address of MAR = 000000000101
 99 Address of MBR =
    00001100000000001011000101000000000000000
100 Address of IBR = 00010100000000000000
101 Address of IR = 00001100
102 Address of MAR = 000000001011
103 PC incremented to 000000000110 (6)
104 The instruction is 00001100
105 DIV MX: AC / MX
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```
106 Put quotient in MQ and remainder in AC
107 Contents of AC before op =
    10000000000000000000000000000000110010 (-50)
108 Contents of MX =
    00000000000000000000000000000000001011 (11)
109 Contents of MQ after op =
    10000000000000000000000000000000000100 (-4)
110 Contents of AC after op =
    10000000000000000000000000000000000110 (-6)
111 IBR is not empty
112 Address of IR = 00010100
113 Address of MAR = 000000000000
114 The instruction is 00010100
115 LSH: multiply accumulator by 2
116 Contents of AC before op =
    10000000000000000000000000000000000110 (-6)
117 Contents of AC after op =
    10000000000000000000000000000000001100 (-12)
118 IBR is empty
119 Address of PC = 000000000110
120 Address of MAR = 000000000110
121 Address of MBR =
    00010101000000000001111111100000000000
122 Address of IBR = 11111111000000000000
123 Address of IR = 00010101
124 Address of MAR = 000000000000
125 PC incremented to 000000000111 (7)
126 The instruction is 00010101
127 RSH: divide accumulator by 2
128 Contents of AC before op =
    10000000000000000000000000000000001100 (-12)
129 Contents of AC after op =
    10000000000000000000000000000000000110 (-6)
130 IBR is not empty
131 Address of IR = 11111111
132 Address of MAR = 000000000000
133 The instruction is 11111111
134 Halting now, bye!
135
136 Memory after operations...
137 Line 0: 000010010000000001110000101000000000000
138 Line 1: 000000100000000010000000011000000001001
139 Line 2: 000001000000000010100000110100000000100
140 Line 3: 111111110000000000000000000000000000000
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141 Line 4: 00000111000000001010000010000000000001000
142 Line 5: 00001100000000001011000101000000000000000
143 Line 6: 00010101000000000000111111110000000000000
144 Line 7: 00000000000000000000000000000000001100100
145 Line 8: 10000000000000000000000000000000000110010
146 Line 9: 00000000000000000000000000000000000001010
147 Line 10: 10000000000000000000000000000000000001010
148 Line 11: 00000000000000000000000000000000000001011
149
150 Process finished with exit code 0
151
```