



ΕΘΝΙΚΟ ΜΕΤΣΟΒΙΟ ΠΟΛΥΤΕΧΝΕΙΟ

ΣΧΟΛΗ ΗΜ&ΜΥ

Εργαστήριο Μικροϋπολογιστών 2^η Εργαστηριακή Άσκηση
Ακ. έτος 2011-2012

Ομάδα C07

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6 Δεκεμβρίου 2011

Άσκηση 3(ii)

```
1  START:  LDA 2000H
2          CALL XOR
3          CALL XOR
4          CALL XOR
5          CALL XOR
6          MOV D,C
7          MOV A,C
8          RAR
9          MOV C,A
10         MOV A,D
11         RAL
12         RAL
13         RAL
14         RAL
15         RAL
16         RAL
17         CALL OR
18         MOV A,C
19         CMA
20         STA 3000H
21         JMP START
22
23
24         ;diabazei apo ton A,
25         ;xrhsimopotei ton b ws buffer
26         ;grafei to apotelesma ston C
27  XOR:    RAL      ;CALL XOR
28          JC ONE
29          RAL
30          JC TRUE
31          JMP FALSE
32  ONE:    CMC
33          RAL
34          JC FALSEX
35          JMP TRUE
36
37  OR:     RAL      ;CALL OR
38          JC TRUE
39          RAL
40          JC TRUE
41          JMP FALSE
42
43  TRUE:   CMC
44          MOV B,A
45          MOV A,C
46          RAL
47          ORI 01H
48          MOV C,A
49          MOV A,B
50          RET
51
52  FALSEX: CMC
53  FALSE:  MOV B,A
54          MOV A,C
55          RAL
56          ANI FEH
57          MOV C,A
58          MOV A,B
59          RET
60  END
61
62
1  IN 10H
2  START:
3          LXI H,0B00H
4          MVI M,10H
5          INX H
6          MVI M,10H
7          INX H
8          MVI M,10H
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9      INX H
10     MVI M,10H
11     INX H
12
13     CALL KIND
14     CPI 00H
15     JZ 00
16     CPI 01H
17     JZ 01
18     CPI 02H
19     JZ 02
20     CPI 03H
21     JZ 03
22     CPI 04H
23     JZ 04
24     CPI 05H
25     JZ 05
26     CPI 06H
27     JZ 06
28     CPI 07H
29     JZ 07
30     CPI 08H
31     JZ 08
32     CPI 09H
33     JZ 09
34     CPI 0AH
35     JZ 0A
36     CPI 0BH
37     JZ 0B
38     CPI 0CH
39     JZ 0C
40     CPI 0DH
41     JZ 0D
42     CPI 0EH
43     JZ 0E
44     CPI 0FH
45     JZ 0F
46     CPI 80H
47     JZ 80
48     CPI 81H
49     JZ 81
50     CPI 82H
51     JZ 82
52     CPI 83H
53     JZ 83
54     CPI 84H
55     JZ 84
56     CPI 85H
57     JZ 85
58     CPI 86H
59     JZ 86
60     CPI F7H
61     JZ F7
62     00:
63     MVI M,00H
64     INX H
65     MVI M,00H
66     LXI D,0B00H
67     CALL STDM
68     LOOP_00:
69     CALL DCD
70     ; JMP LOOP_00
71     JMP START
72     01:
73     MVI M,01H
74     INX H
75     MVI M,00H
76     LXI D,0B00H
77     CALL STDM
78     LOOP_01:
79     CALL DCD
80     ; JMP LOOP_01
81     JMP START
82     02:
83     MVI M,02H

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84         INX H
85         MVI M,00H
86         LXI D,0B00H
87         CALL STDM
88     LOOP_02:
89         CALL DCD
90         ; JMP LOOP_02
91         JMP START
92     03:
93         MVI M,03H
94         INX H
95         MVI M,00H
96         LXI D,0B00H
97         CALL STDM
98     LOOP_03:
99         CALL DCD
100        ; JMP LOOP_03
101        JMP START
102    04:
103        MVI M,04H
104        INX H
105        MVI M,00H
106        LXI D,0B00H
107        CALL STDM
108    LOOP_04:
109        CALL DCD
110        ; JMP LOOP_04
111        JMP START
112    05:
113        MVI M,05H
114        INX H
115        MVI M,00H
116        LXI D,0B00H
117        CALL STDM
118    LOOP_05:
119        CALL DCD
120        ; JMP LOOP_05
121        JMP START
122    06:
123        MVI M,06H
124        INX H
125        MVI M,00H
126        LXI D,0B00H
127        CALL STDM
128    LOOP_06:
129        CALL DCD
130        ; JMP LOOP_06
131        JMP START
132    07:
133        MVI M,07H
134        INX H
135        MVI M,00H
136        LXI D,0B00H
137        CALL STDM
138    LOOP_07:
139        CALL DCD
140        ; JMP LOOP_07
141        JMP START
142    08:
143        MVI M,08H
144        INX H
145        MVI M,00H
146        LXI D,0B00H
147        CALL STDM
148    LOOP_08:
149        CALL DCD
150        ; JMP LOOP_08
151        JMP START
152    09:
153        MVI M,09H
154        INX H
155        MVI M,00H
156        LXI D,0B00H
157        CALL STDM
158    LOOP_09:

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159         CALL DCD
160         ; JMP LOOP_09
161         JMP START
162
163     0A:
164         MVI M,0AH
165         INX H
166         MVI M,00H
167         LXI D,0B00H
168         CALL STDM
169     LOOP_0A:
170         CALL DCD
171         ; JMP LOOP_0A
172         JMP START
173
174     0B:
175         MVI M,0BH
176         INX H
177         MVI M,00H
178         LXI D,0B00H
179         CALL STDM
180     LOOP_0B:
181         CALL DCD
182         ; JMP LOOP_0B
183         JMP START
184
185     0C:
186         MVI M,0CH
187         INX H
188         MVI M,00H
189         LXI D,0B00H
190         CALL STDM
191     LOOP_0C:
192         CALL DCD
193         ; JMP LOOP_0C
194         JMP START
195
196     0D:
197         MVI M,0DH
198         INX H
199         MVI M,00H
200         LXI D,0B00H
201         CALL STDM
202     LOOP_0D:
203         CALL DCD
204         ; JMP LOOP_0D
205         JMP START
206
207     0E:
208         MVI M,0EH
209         INX H
210         MVI M,00H
211         LXI D,0B00H
212         CALL STDM
213     LOOP_0E:
214         CALL DCD
215         ; JMP LOOP_0E
216         JMP START
217
218     0F:
219         MVI M,0FH
220         INX H
221         MVI M,00H
222         LXI D,0B00H
223         CALL STDM
224     LOOP_0F:
225         CALL DCD
226         ; JMP LOOP_0F
227         JMP START
228
229     80:
230         MVI M,00H
231         INX H
232         MVI M,08H
233         LXI D,0B00H

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234         CALL STDM
235 LOOP_80:
236         CALL DCD
237         ; JMP LOOP_80
238         JMP START
239
240 81:
241         MVI M,01H
242         INX H
243         MVI M,08H
244         LXI D,0B00H
245         CALL STDM
246 LOOP_81:
247         CALL DCD
248         ; JMP LOOP_81
249         JMP START
250
251 82:
252         MVI M,02H
253         INX H
254         MVI M,08H
255         LXI D,0B00H
256         CALL STDM
257 LOOP_82:
258         CALL DCD
259         ; JMP LOOP_82
260         JMP START
261
262 83:
263         MVI M,03H
264         INX H
265         MVI M,08H
266         LXI D,0B00H
267         CALL STDM
268 LOOP_83:
269         CALL DCD
270         ; JMP LOOP_83
271         JMP START
272
273 84:
274         MVI M,04H
275         INX H
276         MVI M,08H
277         LXI D,0B00H
278         CALL STDM
279 LOOP_84:
280         CALL DCD
281         ; JMP LOOP_84
282         JMP START
283
284 85:
285         MVI M,05H
286         INX H
287         MVI M,08H
288         LXI D,0B00H
289         CALL STDM
290 LOOP_85:
291         CALL DCD
292         ; JMP LOOP_85
293         JMP START
294
295 86:
296         MVI M,06H
297         INX H
298         MVI M,08H
299         LXI D,0B00H
300         CALL STDM
301 LOOP_86:
302         CALL DCD
303         ; JMP LOOP_86
304         JMP START
305
306 F7:
307         MVI M,07H
308         INX H
309         MVI M,0FH
310         LXI D,0B00H
311         CALL STDM

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```
309  LOOP_F7:
310      CALL DCD
311      ; JMP LOOP_F7
312      JMP START
313  END
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