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1  /*P0-RED+GREEN, P1L-ONES_FND, P1U-TENS_FND, P2-SENSORS, P3L-YELLOW, P3.4-BUZZER, P3.5-SWITCH,
   P3.6-SOUND SENSOR*/
2  /*R0-YELLOW 2SEC FOR RETURNING TO ROUTINE FROM HIGH TRAFFIC DENSITY ON ONE SIDE; R1-DELAY AND SIREN;*/
3  /*R2-DELAY AND DELAY2; R3-8SEC, ONLY FOR DELAY; R4-RETAINING STATUS AFTER ROUTINE; R5-DECADE
   COUNTER; R6=NULL; R7-YELLOW 2 SEC NORMAL;*/
4
5
6      ORG 0H
7  HERE1: JB P3.5, HERE1
8  HERE2: JNB P3.5, HERE2
9      UP1: MOV P0, #0A9H
10         ACALL DELAY
11         MOV P0, #0A6H
12         ACALL DELAY
13         MOV P0, #9AH
14         ACALL DELAY
15         MOV P0, #6AH
16         ACALL DELAY
17         SJMP UP1
18
19  HERE3: MOV P0, #0FFH
20         MOV P1, #0FFH
21         MOV P2, #0FFH
22         MOV P3, #0FFH
23  HERE4: JNB P3.5, HERE4
24         SJMP HERE1
25
26  DELAY: MOV R5, #09
27         MOV R3, #08
28  AGAIN2: MOV P1, R5
29         MOV R1, #250
30  AGAIN:  MOV R2, #110
31  HERE:   JNB P3.5, HERE3
32         MOV R4, P0
33         MOV A, P2
34         CJNE A, #0FCH, XX1
35         ACALL DOWN1
36         MOV P0, R4
37  XX1:    CJNE A, #0F3H, XX2
38         ACALL DOWN2
39         MOV P0, R4
40  XX2:    CJNE A, #0CFH, XX3
41         ACALL DOWN3
42         MOV P0, R4
43  XX3:    CJNE A, #3FH, XX4
44         ACALL DOWN4
45         MOV P0, R4
46  XX4:    CJNE A, #0FEH, XX5
47         ACALL DOWN5
48         MOV P0, R4
49  XX5:    CJNE A, #0FBH, XX6
50         ACALL DOWN6
51         MOV P0, R4
52  XX6:    CJNE A, #0EFH, XX7
53         ACALL DOWN7
54         MOV P0, R4
55  XX7:    CJNE A, #0BFH, XX8
56         ACALL DOWN8
57         MOV P0, R4
58  XX8:    CJNE A, #0F0H, XX9
59         ACALL DOWN9
60         MOV P0, R4
61  XX9:    CJNE A, #0CCH, XX10
62         ACALL DOWN10
63         MOV P0, R4
64  XX10:   CJNE A, #3CH, XX11
65         ACALL DOWN11
66         MOV P0, R4
67  XX11:   CJNE A, #33H, XX12
68         ACALL DOWN12
69         MOV P0, R4
70  XX12:   CJNE A, #0C3H, XX13
71         ACALL DOWN13
72         MOV P0, R4
73  XX13:   CJNE A, #0FH, XX14
74         ACALL DOWN14
75         MOV P0, R4
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76     XX14: CJNE A, #00H, XX15
77         ACALL DOWN15
78         MOV P0,R4
79     XX15: JB P3.6, XX16
80         ACALL DOWN16
81     XX16:
82         NOP
83         DJNZ R2,HERE
84         DJNZ R1,AGAIN
85         DEC R5
86         DEC R3
87         MOV A,R3
88         JZ DAWN
89         LJMP AGAIN2
90
91     DAWN: MOV A,P0
92         CJNE A, #0A9H, YY1
93         MOV P1, R5
94         MOV R7,#02
95     II1: CPL P3.0
96         SETB P0.1
97         ACALL DELAY2
98         DJNZ R7, II1
99         MOV P1,#00H
100        MOV R7,#02
101    IIE1: CPL P3.0
102        ACALL DELAY2
103        DJNZ R7, IIE1
104        SJMP YY4
105
106    YY1: CJNE A, #0A6H, YY2
107        MOV P1, R5
108        MOV R7,#02
109    II2: CPL P3.1
110        SETB P0.3
111        ACALL DELAY2
112        DJNZ R7, II2
113        MOV P1,#00H
114        MOV R7,#02
115    IE2: CPL P3.1
116        ACALL DELAY2
117        DJNZ R7, IE2
118        SJMP YY4
119
120    YY2: CJNE A, #9AH, YY3
121        MOV P1, R5
122        MOV R7,#02
123    II3: CPL P3.2
124        SETB P0.5
125        ACALL DELAY2
126        DJNZ R7, II3
127        MOV P1, #00H
128        MOV R7,#02
129    IE3: CPL P3.2
130        ACALL DELAY2
131        DJNZ R7, IE3
132        SJMP YY4
133
134    YY3: CJNE A, #6AH, YY4
135        MOV P1, R5
136        MOV R7,#02
137    II4: CPL P3.3
138        SETB P0.7
139        ACALL DELAY2
140        DJNZ R7, II4
141        MOV P1, #00H
142        MOV R7,#02
143    IE4: CPL P3.3
144        ACALL DELAY2
145        DJNZ R7, IE4
146
147    YY4:
148    RET
149
150
151    DOWN1: ACALL SIREN
152        MOV P0,#0A9H
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153     JJERE1: JNB P2.1, JJERE1
154     JJERE2: JNB P2.0, JJERE2
155             JNB P2.1, JJERE1
156             SETB P0.1
157             MOV R0,#4
158     PLZUP1: CPL P3.0
159             ACALL DELAY2
160             DJNZ R0,PLZUP1
161     RET
162
163
164     DOWN2: ACALL SIREN
165             MOV P0,#0A6H
166     JJERE3: JNB P2.3, JJERE3
167     JJERE4: JNB P2.2, JJERE4
168             JNB P2.3, JJERE3
169             MOV R0,#4
170     PLZUP2: CPL P3.1
171             ACALL DELAY2
172             DJNZ R0,PLZUP2
173     RET
174
175
176     DOWN3: ACALL SIREN
177             MOV P0,#9AH
178     JJERE5: JNB P2.5, JJERE5
179     JJERE6: JNB P2.4, JJERE6
180             JNB P2.5, JJERE5
181             MOV R0,#4
182     PLZUP3: CPL P3.2
183             ACALL DELAY2
184             DJNZ R0,PLZUP3
185     RET
186
187     DOWN4: ACALL SIREN
188             MOV P0,#6AH
189     JJERE7: JNB P2.7, JJERE7
190     JJERE8: JNB P2.6, JJERE8
191             JNB P2.7, JJERE7
192             MOV R0,#4
193     PLZUP4: CPL P3.3
194             ACALL DELAY2
195             DJNZ R0,PLZUP4
196     RET
197
198     DOWN5: MOV A,P0
199             CJNE A,#0A9H, DRAWN1
200             MOV R1,#10
201     HURRR1: INC R5
202             DJNZ R1,HURRR1
203             MOV P1,R5
204             MOV P0,#0A9H
205             ACALL INCRCSED
206     DRAWN1:
207     RET
208
209     DOWN6: MOV A,P0
210             CJNE A,#0A6H, DRAWN2
211             MOV R1,#10
212     HURRR2: INC R5
213             DJNZ R1,HURRR2
214             MOV P1,R5
215             MOV P0,#0A6H
216             ACALL INCRCSED
217     DRAWN2:
218     RET
219
220     DOWN7: MOV A,P0
221             CJNE A,#9AH, DRAWN3
222             MOV R1,#10
223     HURRR3: INC R5
224             DJNZ R1,HURRR3
225             MOV P1,R5
226             MOV P0,#09AH
227             ACALL INCRCSED
228     DRAWN3:
229     RET
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230
231     DOWN8: MOV A,P0
232           CJNE A,#6AH, DRAWN4
233           MOV R1,#10
234     HURRR4: INC R5
235           DJNZ R1,HURRR4
236           MOV P1,R5
237           MOV P0,#6AH
238           ACALL INCRCSED
239     DRAWN4:
240     RET
241
242     DOWN9: ACALL SIREN
243           MOV P0,#0A9H
244           ACALL DEL20SC
245           MOV P0,#0A6H
246           ACALL DEL20SC
247     RET
248
249     DOWN10: ACALL SIREN
250            MOV P0,#0A9H
251            ACALL DEL20SC
252            MOV P0,#9AH
253            ACALL DEL20SC
254     RET
255
256     DOWN11: ACALL SIREN
257            MOV P0,#0A9H
258            ACALL DEL20SC
259            MOV P0,#6AH
260            ACALL DEL20SC
261     RET
262
263     DOWN12: ACALL SIREN
264            MOV P0,#0A6H
265            ACALL DEL20SC
266            MOV P0,#6AH
267            ACALL DEL20SC
268     RET
269
270     DOWN13: ACALL SIREN
271            MOV P0,#0A6H
272            ACALL DEL20SC
273            MOV P0,#9AH
274            ACALL DEL20SC
275     RET
276
277     DOWN14: ACALL SIREN
278            MOV P0,#9AH
279            ACALL DEL20SC
280            MOV P0,#6AH
281            ACALL DEL20SC
282     RET
283
284     DOWN15: MOV P0,R4
285            ACALL DEL20SC
286            MOV A,R4
287            CJNE A,#0A9H, KOL1
288            MOV P0, #0A6H
289            ACALL DEL20SC
290            MOV P0, #9AH
291            ACALL DEL20SC
292            MOV P0, #6AH
293            ACALL DEL20SC
294            SJMP KOL4
295     KOL1:  CJNE A,#0A6H, KOL2
296            MOV P0, #9AH
297            ACALL DEL20SC
298            MOV P0, #6AH
299            ACALL DEL20SC
300            MOV P0, #0A9H
301            ACALL DEL20SC
302            SJMP KOL4
303     KOL2:  CJNE A,#9AH, KOL3
304            MOV P0, #6AH
305            ACALL DEL20SC
306            MOV P0, #0A9H
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307         ACALL DEL20SC
308         MOV P0, #0A6H
309         ACALL DEL20SC
310         SJMP KOL4
311
312     KOL3: CJNE A, #6AH, KOL4
313         MOV P0, #0A9H
314         ACALL DEL20SC
315         MOV P0, #0A6H
316         ACALL DEL20SC
317         MOV P0, #9AH
318         ACALL DEL20SC
319     KOL4:
320     RET
321
322     DOWN16: ACALL DELAY2
323             ACALL DELAY2
324             JB P3.6, KUUDJA
325             ACALL DELAY2
326             ACALL DELAY2
327             ACALL DELAY2
328             JNB P3.6, KUUDJA
329             ACALL DELAY2
330             JB P3.6, KUUDJA
331             ACALL DELAY2
332             JNB P3.6, KUUDJA
333             ACALL DELAY2
334             ACALL DELAY2
335             JB P3.6, KUUDJA
336             ACALL DELAY2
337             MOV P0, #0A9H
338             MOV R6, #20
339     PHIRSE: ACALL DELAY2
340             DJNZ R6, PHIRSE
341     KUUDJA:
342     RET
343
344     DELAY2: MOV R1, #125
345     AGAINA: MOV R2, #250
346     HEREA:  NOP
347             NOP
348             NOP
349             NOP
350             NOP
351             NOP
352             NOP
353             NOP
354             NOP
355             NOP
356             NOP
357             NOP
358             NOP
359             DJNZ R2, HEREA
360             DJNZ R1, AGAINA
361     RET
362
363     SIREN: MOV P1, #0FFH
364             MOV P3, #00H
365             MOV R1, #4
366     UPAR:  CPL P3.0
367             CPL P3.1
368             CPL P3.2
369             CPL P3.3
370             ACALL DELAY2
371             DJNZ R1, UPAR
372             MOV P3, #0FFH
373
374     RET
375
376     INCRSED:
377     AAGIND: MOV P1, R5
378             MOV R1, #250
379     AGAIND: MOV R2, #250
380     HERED:  NOP
381             NOP
382             NOP
383             NOP
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384      NOP
385      NOP
386      NOP
387      NOP
388      NOP
389      NOP
390      NOP
391      NOP
392      NOP
393      DJNZ R2, HERED
394      DJNZ R1, AGAIND
395      DJNZ R5, AAGIND
396      RET
397
398      DEL20SC: MOV R5, #20
399      UPARJA:  MOV P1, R5
400             MOV R1, #125
401      AGAINR: MOV R2, #250
402      HERER:  NOP
403             NOP
404             NOP
405             NOP
406             NOP
407             NOP
408             NOP
409             NOP
410             NOP
411             NOP
412             NOP
413             NOP
414             NOP
415      DJNZ R2, HERER
416      DJNZ R1, AGAINR
417      DJNZ R5,  UPARJA
418      RET
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