```
 1 'Jonathan Duke
 2 'Project #2
 3 ' {$STAMP BS2}
 4 ' {$PBASIC 2.5}
 5 'N-S & S-N
 6   'r-2 y-1 g-0
 7 'E-W & W-E
 8   'r-5 y-4 g-3
 9 'E-W & W-E Left Arrows
10   'r-8 y-7 g-6
11
12 sequenceon VAR Word
13 buttonstate VAR Word
14 counter VAR Word
15
16 'Initialization
17 sequenceon = 0
18 buttonstate = 0
19
20
21 DO
22 GOSUB Main
23 LOOP
24 Main:
25 'Beginning of entire program
26 DO
27 sequenceon = 0
28 buttonstate = 0
29
30  GOSUB one
31  GOSUB two
32  GOSUB three
33  GOSUB four
34
35 'End of DO LOOP/End of program
36 LOOP
37
38 one:
39 'All lights red & clear intersection
40 DEBUG ? IN15 : buttonstate = 0
41 HIGH 2:HIGH 5:HIGH 14
42   FOR counter = 1 TO 100
43   DEBUG ? IN15
44   IF (IN15 = 1) THEN
45   sequenceon = 0 : buttonstate = 1  : DEBUG ? sequenceon : DEBUG ? buttonstate
46   ELSE
47   sequenceon = 0
48   ENDIF
49 NEXT
50 IF (buttonstate=1 AND sequenceon = 0) THEN GOSUB emergency
51 RETURN
52
53
54 two:
55 'Left turn sequence & clear intersection
56 'DEBUG "Left Turn Sequence Start"
57 DEBUG ? IN15
58 buttonstate = 0
59 LOW 14:HIGH 6
60   FOR counter = 1 TO 100
61   DEBUG ? IN15
62   IF (IN15 = 1) THEN
63   sequenceon = 0 : buttonstate = 1
64   ELSE
65   sequenceon = 1 : DEBUG ? sequenceon
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66     ENDIF
67     NEXT
68 LOW 6:HIGH 7
69     FOR counter = 1 TO 100
70     DEBUG ? IN15
71     IF (IN15 = 1) THEN
72     sequenceon = 0 : buttonstate = 1  : DEBUG ? sequenceon : DEBUG ? buttonstate
73     ELSE
74     sequenceon = 1 : DEBUG ? sequenceon
75     ENDIF
76     NEXT
77 LOW 7:HIGH 14
78     FOR counter = 1 TO 100
79     DEBUG ? IN15
80     IF (IN15 = 1) THEN
81     sequenceon = 0 : buttonstate = 1  : DEBUG ? sequenceon : DEBUG ? buttonstate
82     ELSE
83     sequenceon = 0 : DEBUG ? sequenceon
84     ENDIF
85     NEXT
86 'DEBUG "Left Turn Sequence Stop"
87 RETURN
88
89 three:
90 'E-W W-E sequence & clear intersection
91 DEBUG ? IN15
92 'DEBUG "E-W W-E Sequence Start"
93 LOW 5:HIGH 3
94     FOR counter = 1 TO 100
95     DEBUG ? IN15
96     IF (IN15 = 1) THEN
97     sequenceon = 0 : buttonstate = 1  : DEBUG ? sequenceon : DEBUG ? buttonstate
98     ELSE
99     sequenceon = 0 : DEBUG ? sequenceon
100    ENDIF
101    NEXT
102 LOW 3:HIGH 4
103    FOR counter = 1 TO 100
104    DEBUG ? IN15
105    IF (IN15 = 1) THEN
106    sequenceon = 0 : buttonstate = 1  : DEBUG ? sequenceon : DEBUG ? buttonstate
107    ELSE
108    sequenceon = 0 : DEBUG ? sequenceon
109    ENDIF
110    NEXT
111 LOW 4:HIGH 5
112    FOR counter = 1 TO 100
113    DEBUG ? IN15
114    IF (IN15 = 1) THEN
115    sequenceon = 0 : buttonstate = 1  : DEBUG ? sequenceon : DEBUG ? buttonstate
116    ELSE
117    sequenceon = 0 : DEBUG ? sequenceon
118    ENDIF
119    NEXT
120 IF (buttonstate=1 AND sequenceon = 0) THEN GOSUB emergency
121 'DEBUG "E-W W-E Sequence Stop"
122 RETURN
123
124
125
126 four:
127 'N-S S-N sequence
128
129 DEBUG ? IN15
130 'DEBUG "N-S S-N Sequence Start"
```

```
131 buttonstate = 0
132 LOW 2:HIGH 0
133   FOR counter = 1 TO 100
134   DEBUG ? IN15
135   IF (IN15 = 1) THEN
136   sequenceon = 0 : buttonstate = 1  : DEBUG ? sequenceon : DEBUG ? buttonstate
137   ELSE
138   sequenceon = 0 : DEBUG ? sequenceon
139   ENDIF
140   NEXT
141 LOW 0:HIGH 1
142   FOR counter = 1 TO 100
143   DEBUG ? IN15
144   IF (IN15 = 1) THEN
145   sequenceon = 0 : buttonstate = 1  : DEBUG ? sequenceon : DEBUG ? buttonstate
146   ELSE
147   sequenceon = 0 : DEBUG ? sequenceon
148   ENDIF
149   NEXT
150 LOW 1:HIGH 2
151   FOR counter = 1 TO 100
152   DEBUG ? IN15
153   IF (IN15 = 1) THEN
154   sequenceon = 0 : buttonstate = 1  : DEBUG ? sequenceon : DEBUG ? buttonstate
155   ELSE
156   sequenceon = 0 : DEBUG ? sequenceon
157   ENDIF
158   NEXT
159 IF (buttonstate=1 AND sequenceon = 0) THEN GOSUB emergency
160 'DEBUG "N-S S-N Sequence Stop"
161
162 RETURN
163
164
165
166 'Emergency button
167 'N-S & S-N
168   'r-2
169 'E-W & W-E
170   'y-4
171 'E-W & W-E Left Arrows
172   'y-7
173 emergency:
174 DO
175 DEBUG ? IN15
176 LOW 5: LOW 14:LOW 2: LOW 4: LOW 7
177 DEBUG ? IN15
178 HIGH 2: HIGH 4: HIGH 7
179   FOR counter = 1 TO 200
180   IF (IN15 = 1) THEN
181   HIGH 2:HIGH 5:HIGH 14 :LOW 0: LOW 1 : LOW 3 : LOW 4 : LOW 6 : LOW 7
182   PAUSE 4000
183   RETURN
184   ENDIF
185   NEXT
186 LOW 2: LOW 4: LOW 7
187   FOR counter = 1 TO 200
188   IF (IN15 = 1) THEN
189   HIGH 2:HIGH 5:HIGH 14 :LOW 0: LOW 1 : LOW 3 : LOW 4 : LOW 6 : LOW 7
190   PAUSE 4000
191   RETURN
192   ENDIF
193   NEXT
194 HIGH 2: HIGH 4: HIGH 7
195   FOR counter = 1 TO 200
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196    IF (IN15 = 1) THEN
197    HIGH 2:HIGH 5:HIGH 14 :LOW 0: LOW 1 : LOW 3 : LOW 4 : LOW 6 : LOW 7
198    PAUSE 4000
199    RETURN
200    ENDIF
201    NEXT
202 LOW 2: LOW 4: LOW 7
203    FOR counter = 1 TO 200
204    IF (IN15 = 1) THEN
205    HIGH 2:HIGH 5:HIGH 14 :LOW 0: LOW 1 : LOW 3 : LOW 4 : LOW 6 : LOW 7
206    PAUSE 4000
207    RETURN
208    ENDIF
209    NEXT
210 LOOP UNTIL IN15=1
211 RETURN
212
213
214
215
216
217
218
219
220
```