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1 'Jonathan Duke
2 'Project #3
3 ' ($STAMP BS2)
4 ' ($PBASIC 2.5)
5 'pb1-4 is used to stores presses for each button
6 pb1 VAR Nib
7 pb2 VAR Nib
8 pb3 VAR Nib
9 pb4 VAR Nib
10 'pbnnum1-4 is the code for the gate
11 pb1num VAR Nib
12 pb2num VAR Nib
13 pb3num VAR Nib
14 pb4num VAR Nib
15 'Used to check if the totalpress is too high
16 pbnumtotal VAR Nib
17 'Every press is counted and added via GOSUB pressesadd
18 totalpresses VAR Nib
19 'Used to reduce repition of HIGH & LOW
20 Redloop VAR Nib
21 Yellowloop VAR Nib
22 'Used in FOR NEXT
23 counter VAR Word
24 'Pin Directives for LEDs
25 Red PIN 15
26 Yellow PIN 14
27 Green PIN 13
28
29 'PUSH BUTTONS MUST HAVE A PAUSE 100 AFTER BEING CHECKED, BUTTONS WILL NOT WORK IF USED OTHERWISE
30
31
32
33 ''DEBUG CLS, "Choose amount of presses for Push Button 1: "
34 ''DEBUGIN DEC pb1num
35 ''DEBUG CLS, "Choose amount of presses for Push Button 2: "
36 ''DEBUGIN DEC pb2num
37 ''DEBUG CLS, "Choose amount of presses for Push Button 3: "
38 ''DEBUGIN DEC pb3num
39 ''DEBUG CLS, "Choose amount of presses for Push Button 4: "
40 ''DEBUGIN DEC pb4num
41 ''DEBUG CLS
42 'pbnumtotal= pb1num+pb2num+pb3num+pb4num
43 ''DEBUG ? pbnumtotal
44 'IF (pbnumtotal > 12) THEN 'DEBUG "Error, too many presses, max allowed presses = 12. Restart
  program"
45 'IF (pbnumtotal < 9) THEN 'DEBUG "Error, too many presses, min allowed presses = 9. Restart
  program"
46
47 pb1num=4
48 pb2num=3
49 pb3num=2
50 pb4num=1
51
52 'used to check if the totalpress is too high
53 pbnumtotal= pb1num+pb2num+pb3num+pb4num
54
55 DO
56 GOSUB Resetvar
57 GOSUB Main
58 LOOP
59
60 Main:
61 HIGH Red
62 FOR counter = 0 TO 65535
63 IF (IN0=1) THEN

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64 PAUSE 100
65 GOSUB Emergency
66 ENDIF
67 IF (IN1=1) THEN
68 PAUSE 100
69 pb1=1
70 'DEBUG CLS, ? pb1
71 GOSUB pressesadd
72 GOSUB PB1add
73 ENDIF
74 IF (IN2=1) OR (IN3=1) OR (IN4=1) THEN
75 PAUSE 100
76 GOSUB pressesadd
77 ENDIF
78 NEXT
79
80
81 PB1add:
82 IF (totalpresses = pbnumtotal) AND (pb1 >< pb1num) THEN GOSUB youfdup
83 IF (pb1=pb1num) THEN GOSUB PB2add
84 IF (totalpresses = pbnumtotal) AND (pb1 >< pb1num) THEN GOSUB youfdup
85 FOR counter = 0 TO 65535
86 IF (IN0=1) THEN
87 PAUSE 100
88 GOSUB Emergency
89 ENDIF
90 IF (IN1=1) THEN
91 PAUSE 100
92 pb1=pb1+1
93 'DEBUG ? pb1
94 GOSUB pressesadd
95 GOSUB PB1add
96 ENDIF
97 IF (IN2=1) OR (IN3=1) OR (IN4=1) THEN
98 PAUSE 100
99 GOSUB pressesadd
100 ENDIF
101 NEXT
102 RETURN
103
104 PB2add:
105 IF (totalpresses = pbnumtotal) AND (pb1 >< pb1num) THEN GOSUB youfdup
106 IF (pb2=pb2num) THEN GOSUB PB3add
107 IF (totalpresses = pbnumtotal) AND (pb1 >< pb1num) THEN GOSUB youfdup
108 FOR counter = 0 TO 65535
109 IF (IN0=1) THEN
110 PAUSE 100
111 GOSUB Emergency
112 ENDIF
113 IF (IN2=1) THEN
114 PAUSE 100
115 pb2=pb2+1
116 'DEBUG ? pb2
117 GOSUB pressesadd
118 GOSUB PB2add
119 ENDIF
120 IF (IN1=1) OR (IN3=1) OR (IN4=1) THEN
121 PAUSE 100
122 GOSUB pressesadd
123 ENDIF
124 NEXT
125 RETURN
126
127 PB3add:
128 IF (totalpresses = pbnumtotal) THEN GOSUB youfdup
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129 IF (pb3=pb3num) THEN GOSUB PB4add
130 IF (totalpresses = pbnumtotal) THEN GOSUB youfdup
131 FOR counter = 0 TO 65535
132 IF (IN0=1) THEN
133 PAUSE 100
134 GOSUB Emergency
135 ENDIF
136 IF (IN3=1) THEN
137 PAUSE 100
138 pb3=pb3+1
139 'DEBUG ? pb3
140 GOSUB pressesadd
141 GOSUB PB3add
142 ENDIF
143 IF (IN1=1) OR (IN2=1) OR (IN4=1) THEN
144 PAUSE 100
145 GOSUB pressesadd
146 ENDIF
147 NEXT
148 RETURN
149
150 PB4add:
151 IF (pb4=pb4num) THEN GOSUB Gate
152 IF (totalpresses = pbnumtotal) THEN GOSUB youfdup
153 FOR counter = 0 TO 65535
154 IF (totalpresses = pbnumtotal) THEN GOSUB youfdup
155 IF (IN0=1) THEN
156 PAUSE 100
157 GOSUB Emergency
158 ENDIF
159 IF (IN4=1) THEN
160 PAUSE 100
161 pb4=pb4+1
162 'DEBUG ? pb4
163 GOSUB pressesadd
164 GOSUB PB4add
165 ENDIF
166 IF (IN1=1) OR (IN2=1) OR (IN3=1) THEN
167 PAUSE 100
168 GOSUB pressesadd
169 ENDIF
170 NEXT
171 RETURN
172
173 pressesadd:
174 IF (pb1><pb1num) OR (pb2><pb2num) OR (pb3><pb3num) OR (pb4><pb4num) THEN
175 IF (totalpresses=pbnumtotal) THEN GOSUB youfdup
176 ENDIF
177 totalpresses=totalpresses+1
178 'DEBUG ? totalpresses
179 IF (pb1><pb1num) OR (pb2><pb2num) OR (pb3><pb3num) OR (pb4><pb4num) THEN
180 IF (totalpresses=pbnumtotal) THEN GOSUB youfdup
181 ENDIF
182 FOR counter = 1 TO 100
183 IF (IN0=1) THEN GOSUB Emergency
184 NEXT
185 RETURN
186
187 Gate:
188 FOR counter= 1 TO 65535
189 IF IN0=1 THEN GOSUB Emergency
190 IF IN0=0 THEN
191 GOSUB Yellowflash
192 HIGH Red
193 GOSUB Servoup
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194 LOW Red
195 FOR counter = 1 TO 6667
196 HIGH Green
197 IF IN0=1 THEN GOSUB Emergency
198 NEXT
199 LOW Green
200 GOSUB Yellowflash
201 HIGH Red
202 GOSUB Servodown
203 'DEBUG CLS
204 GOSUB Resetvar
205 ENDIF
206 GOTO Main
207 NEXT
208 RETURN
209
210 Emergency:
211 LOW Yellow
212 'DEBUG CLS, "Emergency ON"
213 FOR counter = 1 TO 20
214 PULSOUT 12, 750
215 PAUSE 20
216 NEXT
217 LOW Red
218 HIGH Green
219 FOR counter = 1 TO 65535
220 IF (IN0=1) THEN
221 LOW Green
222 HIGH Red
223 FOR counter = 1 TO 20
224 PULSOUT 12, 250
225 PAUSE 20
226 NEXT
227 'DEBUG CLS, "Emergency OFF"
228 GOSUB Resetvar
229 GOSUB Main
230 ENDIF
231 NEXT
232
233 youfdup:
234 Redloop=0
235 GOSUB Resetvar
236 DO
237 LOW Red
238 PAUSE 100
239 HIGH Red
240 PAUSE 100
241 Redloop=Redloop+1
242 LOOP UNTIL Redloop=3
243 'DEBUG CLS
244 GOSUB Main
245
246 Resetvar:
247 totalpresses=0
248 pb1=0
249 pb2=0
250 pb3=0
251 pb4=0
252 RETURN
253
254 Yellowflash:
255 Yellowloop=0
256 DO
257 LOW Red;HIGH Yellow
258 PAUSE 100
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259 LOW Yellow
260 PAUSE 100
261 Yellowloop=Yellowloop+1
262 LOOP UNTIL Yellowloop=10
263 Yellowloop=0
264 RETURN
265
266 Servoup:
267 FOR counter = 1 TO 20
268 PULSOUT 12, 750
269 PAUSE 20
270 NEXT
271 RETURN
272
273 Servodown:
274 FOR counter = 1 TO 20
275 PULSOUT 12, 250
276 PAUSE 20
277 NEXT
278 RETURN
279
280
281
282
283
284
```