```
1  ' GestionParking3.B4R
2  #Region Project Attributes
3      #AutoFlushLogs: True
4      #CheckArrayBounds: True
5      #StackBufferSize: 300
6  #End Region
7
8  ' GESTION D'UN PARKING VIRTUEL DE 10 PLACES VIDE AU DÉPART >>> 10 places sont libres >>> 10 LEDs vertes sont allumées
9  ' Marc DANIEL - via CARTE ARDUINO UNO complétée par l'utilisation du composant L293D - Mars 2021
10 ' Maquette de Parking avec moteur + réducteur et ouverture directe de la barrière
11
12 Sub Process_Globals
13     Public Serial1 As Serial
14     Private pinButtonEntree As Pin                    'broche pour le bouton d'entrée du parking
15     Private pinButtonSortie As Pin                    'broche pour le bouton de sortie du parking
16     Private pinBuzzer As Pin                        'broche pour le buzzer
17     Private pinLED1, pinLED2, pinLED3, pinLED4, pinLED5, pinLED6, pinLED7, pinLED8, pinLED9, pinLED10, pinLEDrouge As Pin 'broches pour les LEDs
18     Public LED1 = False As Boolean
19     Public LED2 = False As Boolean
20     Public LED3 = False As Boolean
21     Public LED4 = False As Boolean
22     Public LED5 = False As Boolean
23     Public LED6 = False As Boolean
24     Public LED7 = False As Boolean
25     Public LED8 = False As Boolean
26     Public LED9 = False As Boolean
27     Public LED10 = False As Boolean
28     Public LEDrouge = False As Boolean
29     Private pinOuverture, pinFermeture As Pin      'broches de sorties pour les connexions motorisation barrière
30     Public Places As UInt
31     End Sub
32
33
34 Private Sub AppStart
35     Serial1.Initialize(115200)
36     pinButtonEntree.Initialize(pinButtonEntree.A0, pinButtonEntree.MODE_INPUT_PULLUP)
37     pinButtonEntree.AddListener("pinButtonEntree_StateChanged")
38     pinButtonSortie.Initialize(pinButtonSortie.A1, pinButtonSortie.MODE_INPUT_PULLUP)
39     pinButtonSortie.AddListener("pinButtonSortie_StateChanged")
40     pinLED1.Initialize(10, pinLED10.MODE_OUTPUT)
41     pinLED2.Initialize(2, pinLED2.MODE_OUTPUT)
42     pinLED3.Initialize(3, pinLED3.MODE_OUTPUT)
43     pinLED4.Initialize(4, pinLED4.MODE_OUTPUT)
44     pinLED5.Initialize (5, pinLED5.MODE_OUTPUT)
45     pinLED6.Initialize(6, pinLED6.MODE_OUTPUT)
46     pinLED7.Initialize(7, pinLED7.MODE_OUTPUT)
47     pinLED8.Initialize(8, pinLED8.MODE_OUTPUT)
48     pinLED9.Initialize (9, pinLED9.MODE_OUTPUT)
49     pinLED10.Initialize(11, pinLED10.MODE_OUTPUT)
50     pinLEDrouge.Initialize(19, pinLEDrouge.MODE_OUTPUT) 'Broche analogique A5
51     pinBuzzer.Initialize(18, pinBuzzer.MODE_OUTPUT) 'Broche analogique A4
```

```
52      pinOuverture.Initialize(12, pinOuverture.MODE_OUTPUT) 'Connexion au composant L293D borne "IN2" pour l'ouverture de la barrière
53      pinFermeture.Initialize (13, pinFermeture.MODE_OUTPUT) 'Connexion au composant L293D borne "IN1" pour la fermeture de la barrière (et allumage de la diode 13 Arduino)
54      Places=10 '10 places de parking sont libres au démarrage - Le parking est vide
55      CallSubPlus("Depart", 0,0)
56
57  End Sub
58
59  Private Sub Depart ' ILy a 10 places de libres - les 10 LEDs vertes sont allumées au départ
60      pinLED1.DigitalWrite(True)
61      pinLED2.DigitalWrite(True)
62      pinLED3.DigitalWrite(True)
63      pinLED4.DigitalWrite(True)
64      pinLED5.DigitalWrite(True)
65      pinLED6.DigitalWrite(True)
66      pinLED7.DigitalWrite(True)
67      pinLED8.DigitalWrite(True)
68      pinLED9.DigitalWrite(True)
69      pinLED10.DigitalWrite(True)
70  End Sub
71
72  Private Sub pinButtonEntree_StateChanged(State1 As Boolean)
73      Log("État: ", State1) 'Log la valeur de State1
74      If State1 = False Then
75          If Places = 0 Then CallSubPlus("GestionPlaces", 0, 0)
76                  If Places > 0 Then
77              Places = Places -1
78              CallSubPlus("Buzzer",0,0)
79              CallSubPlus("GestionPlaces",0,0)
80              CallSubPlus("Ouverture",500,0) ' Ouverture de la barrière
81              CallSubPlus("Pause",5150,0) 'Mouvement du véhicule
82              CallSubPlus("Fermeture", 10300, 0) ' Fermeture de la barrière
83              CallSubPlus("FinEntree",15000,0) ' Fin de la fermeture de la barrière
84          End If
85      End If
86  End Sub
87
88  Private Sub pinButtonSortie_StateChanged(State2 As Boolean)
89      Log("État: ", State2) 'Log la valeur de State2
90      If State2 = False Then
91          If Places = 10 Then CallSubPlus("GestionPlaces",0, 0)
92          If Places < 10 Then
93              Places=Places + 1
94              CallSubPlus("GestionPlaces",0,0)
95              CallSubPlus("Ouverture",200,0) ' Ouverture de la barrière
96              CallSubPlus("Pause",4850,0)  'Mouvement du véhicule
97              CallSubPlus("Fermeture", 10000, 0) ' Fermeture de la barrière
98              CallSubPlus("FinSortie",14700,0) ' Fin de la fermeture de la barrière
99          End If
100     End If
101 End Sub
102
103 Private Sub Ouverture(Tag As Byte)
104     pinBuzzer.DigitalWrite(False)
105     pinOuverture.DigitalWrite(True) ' ouvre la barrière pour entrée ou sortie d'un
```

```
    véhicule
106 End Sub
107
108 Private Sub Pause(Tag As Byte)
109     pinOuverture.DigitalWrite(False) 'La barrière reste ouverte - Mouvement du véhicule
    entrant ou sortant
110 End Sub
111
112 Private Sub Fermeture(Tag As Byte)
113       pinFermeture.DigitalWrite(True)    'fermeture de la barrière
114 End Sub
115
116 Private Sub FinEntree(Tag As Byte)
117         pinFermeture.DigitalWrite(False)    'Arrêt de la fermeture de la barrière
118
119 End Sub
120
121 Private Sub FinSortie(Tag As Byte)
122         pinFermeture.DigitalWrite(False)    'Arrêt de la fermeture de la barrière
123 End Sub
124
125 Private Sub Buzzer(Tag As Byte)
126     pinBuzzer.DigitalWrite(True)
127 End Sub
128
129
130 Private Sub GestionPlaces
131     Select Places
132         Case 0
133             pinLED1.DigitalWrite(False)
134             pinLED2.DigitalWrite(False)
135             pinLED3.DigitalWrite(False)
136             pinLED4.DigitalWrite(False)
137             pinLED5.DigitalWrite(False)
138             pinLED6.DigitalWrite(False)
139             pinLED7.DigitalWrite(False)
140             pinLED8.DigitalWrite(False)
141             pinLED9.DigitalWrite(False)
142             pinLED10.DigitalWrite(False)
143             pinLEDrouge.DigitalWrite(True)  'allume la LED rouge (plus de places)
144         Case 1
145             pinLEDrouge.DigitalWrite(False) 'éteint la LED Rouge
146             pinLED1.DigitalWrite(True) ' Une place est libre
147             pinLED2.DigitalWrite(False)
148             pinLED3.DigitalWrite(False)
149             pinLED4.DigitalWrite(False)
150             pinLED5.DigitalWrite(False)
151             pinLED6.DigitalWrite(False)
152             pinLED7.DigitalWrite(False)
153             pinLED8.DigitalWrite(False)
154             pinLED9.DigitalWrite(False)
155             pinLED10.DigitalWrite(False)
156         Case 2
157             pinLED1.DigitalWrite(True)
158             pinLED2.DigitalWrite(True)
159             pinLED3.DigitalWrite(False)
160             pinLED4.DigitalWrite(False)
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```
161             pinLED5.DigitalWrite(False)
162             pinLED6.DigitalWrite(False)
163             pinLED7.DigitalWrite(False)
164             pinLED8.DigitalWrite(False)
165             pinLED9.DigitalWrite(False)
166             pinLED10.DigitalWrite(False)
167         Case 3
168             pinLED1.DigitalWrite(True)
169             pinLED2.DigitalWrite(True)
170             pinLED3.DigitalWrite(True)
171             pinLED4.DigitalWrite(False)
172             pinLED5.DigitalWrite(False)
173             pinLED6.DigitalWrite(False)
174             pinLED7.DigitalWrite(False)
175             pinLED8.DigitalWrite(False)
176             pinLED9.DigitalWrite(False)
177             pinLED10.DigitalWrite(False)
178         Case 4
179             pinLED1.DigitalWrite(True)
180             pinLED2.DigitalWrite(True)
181             pinLED3.DigitalWrite(True)
182             pinLED4.DigitalWrite(True)
183             pinLED5.DigitalWrite(False)
184             pinLED6.DigitalWrite(False)
185             pinLED7.DigitalWrite(False)
186             pinLED8.DigitalWrite(False)
187             pinLED9.DigitalWrite(False)
188             pinLED10.DigitalWrite(False)
189         Case 5
190             pinLED1.DigitalWrite(True)
191             pinLED2.DigitalWrite(True)
192             pinLED3.DigitalWrite(True)
193             pinLED4.DigitalWrite(True)
194             pinLED5.DigitalWrite(True)
195             pinLED6.DigitalWrite(False)
196             pinLED7.DigitalWrite(False)
197             pinLED8.DigitalWrite(False)
198             pinLED9.DigitalWrite(False)
199             pinLED10.DigitalWrite(False)
200         Case 6
201             pinLED1.DigitalWrite(True)
202             pinLED2.DigitalWrite(True)
203             pinLED3.DigitalWrite(True)
204             pinLED4.DigitalWrite(True)
205             pinLED5.DigitalWrite(True)
206             pinLED6.DigitalWrite(True)
207             pinLED7.DigitalWrite(False)
208             pinLED8.DigitalWrite(False)
209             pinLED9.DigitalWrite(False)
210             pinLED10.DigitalWrite(False)
211         Case 7
212             pinLED1.DigitalWrite(True)
213             pinLED2.DigitalWrite(True)
214             pinLED3.DigitalWrite(True)
215             pinLED4.DigitalWrite(True)
216             pinLED5.DigitalWrite(True)
217             pinLED6.DigitalWrite(True)
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```
218             pinLED7.DigitalWrite(True)
219             pinLED8.DigitalWrite(False)
220             pinLED9.DigitalWrite(False)
221             pinLED10.DigitalWrite(False)
222         Case 8
223             pinLED1.DigitalWrite(True)
224             pinLED2.DigitalWrite(True)
225             pinLED3.DigitalWrite(True)
226             pinLED4.DigitalWrite(True)
227             pinLED5.DigitalWrite(True)
228             pinLED6.DigitalWrite(True)
229             pinLED7.DigitalWrite(True)
230             pinLED8.DigitalWrite(True)
231             pinLED9.DigitalWrite(False)
232             pinLED10.DigitalWrite(False)
233         Case 9
234             pinLED1.DigitalWrite(True)
235             pinLED2.DigitalWrite(True)
236             pinLED3.DigitalWrite(True)
237             pinLED4.DigitalWrite(True)
238             pinLED5.DigitalWrite(True)
239             pinLED6.DigitalWrite(True)
240             pinLED7.DigitalWrite(True)
241             pinLED8.DigitalWrite(True)
242             pinLED9.DigitalWrite(True)
243             pinLED10.DigitalWrite(False)
244         Case 10
245             pinLED1.DigitalWrite(True)
246             pinLED2.DigitalWrite(True)
247             pinLED3.DigitalWrite(True)
248             pinLED4.DigitalWrite(True)
249             pinLED5.DigitalWrite(True)
250             pinLED6.DigitalWrite(True)
251             pinLED7.DigitalWrite(True)
252             pinLED8.DigitalWrite(True)
253             pinLED9.DigitalWrite(True)
254             pinLED10.DigitalWrite(True)
255     End Select
256 End Sub
257
258
259
260
```