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1: int i;
    //Declairs Variable
2: unsigned int display[10] = {0XC0, 0XF9, 0XA4, 0XB0, 0X99, 0X92, 0X82, 0XF8, 0X80,
    0X90};
    //Hexadecimal Values for Seven Segment Display
3:
4: sbit LED_Flow_One_Red at RB0_bit;
    //Variable LED_Flow_One_Red for Output B0
5: sbit LED_Flow_One_Yellow at RB1_bit;
    //Variable LED_Flow_One_Yellow for Output B1
6: sbit LED_Flow_One_Green at RB2_bit;
    //Variable LED_Flow_One_Green for Output B2
7: sbit LED_Flow_Two_Red at RB3_bit;
    //Variable LED_Flow_Two_Red for Output B3
8: sbit LED_Flow_Two_Yellow at RB4_bit;
    //Variable LED_Flow_Two_Yellow for Output B4
9: sbit LED_Flow_Two_Green at RB5_bit;
    //Variable LED_Flow_Two_Green for Output B5
10: sbit LED_Pedestrian_Green at RB6_bit;
    //Variable for Pedestrian Green for Output B6
11: sbit LED_Pedestrian_Red at RB7_bit;
    //Variable for Pedestrian Green for Output B7
12:
13: void main()
    //Start of Program Logic
14: {
15:     TRISB = 0X00;
    // Port B as Output
16:     PORTB = 0X00;
    // Port B Logic Low
17:     TRISC = 0X00;
    // Port C as Output
18:     PORTC = 0X00;
    // Port C Logic Low
19:     TRISD = 0X00;
    // Port D as Output
20:     PORTD = 0X00;
    // Port D Logic Low
21:     do
    // Start of Do-While Loop
22:     {
23:         for (i=0; i<10; i++)
            // After 0 Seconds
24:         {
25:             PORTC = 0XC0;
26:             PORTD = display [i];
            // Port C Output Set Point
27:             // Port D Output Set Point
28:             // Route One - Get Ready
29:             LED_Flow_One_Red = 1;
            // Traffic Light One - Red Light On
30:             LED_Flow_One_Yellow = 1;
            // Traffic Light One - Amber Light On
31:             LED_Flow_One_Green = 0;
            // Traffic Light One
32:             // Route Two - Stop
33:             LED_Flow_Two_Red = 1;
            // Traffic Light Two - Green Light On
34:             LED_Flow_Two_Yellow = 0;
            // Traffic Light Two
35:             LED_Flow_Two_Green = 0;
            // Traffic Light Two

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36:         // Pedestrian - Stop
37:         LED_Pedestrian_Green = 0;
           // Pedestrian Light
38:         LED_Pedestrian_Red = 1;
           // Pedestrian Light - Red Light On
39:
40:         Delay_ms(1000);
           // 10 Second Delay
41:     }
42:     for (i=0; i<10; i++)
           // After 9 Seconds
43:     {
44:         PORTC = 0XF9;
45:         PORTD = display [i];
           // Port C Output Set Point
46:
           // Port D Output Set Point
47:         // Route One - Go
48:         LED_Flow_One_Red = 0;
           // Traffic Light One
49:         LED_Flow_One_Yellow = 0;
           // Traffic Light One
50:         LED_Flow_One_Green = 1;
           // Traffic Light One - Green Light On
51:         // Route Two - Get Ready
52:         LED_Flow_Two_Red = 1;
           // Traffic Light Two - Red Light On
53:         LED_Flow_Two_Yellow = 1;
           // Traffic Light Two - Amber Light On
54:         LED_Flow_Two_Green = 0;
           // Traffic Light Two
55:         // Pedestrian - Stop
56:         LED_Pedestrian_Green = 0;
           // Pedestrian Light
57:         LED_Pedestrian_Red = 1;
           // Pedestrian Light - Red Light On
58:
59:         Delay_ms(1000);
           // 10 Second Delay
60:     }
61:     for (i=0; i<10; i++)
           // After 19 Seconds
62:     {
63:         PORTC = 0XA4;
           // Port C Output Set Point
64:         PORTD = display [i];
           // Port D Output Set Point
65:
66:         // Route One - Prepair to Stop
67:         LED_Flow_One_Red = 0;
           // Traffic Light One
68:         LED_Flow_One_Yellow = 1;
           // Traffic Light One - Amber Light On
69:         LED_Flow_One_Green = 0;
           // Traffic Light One
70:         // Route Two - Go
71:         LED_Flow_Two_Red = 0;
           // Traffic Light Two
72:         LED_Flow_Two_Yellow = 0;
           // Traffic Light Two
73:         LED_Flow_Two_Green = 1;
           // Traffic Light Two - Green Light On
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74:         // Pedestrian - Stop
75:         LED_Pedestrian_Green = 0;
           // Pedestrian Light
76:         LED_Pedestrian_Red = 1;
           // Pedestrian Light - Red Light On
77:
78:         Delay_ms(1000);
           // 10 Second Delay
79:     }
80:     for (i=0; i<10; i++)
           // After 29 Seconds
81:     {
82:         PORTC = 0XB0;
           // Port C Output Set Point
83:         PORTD = display [i];
           // Port D Output Set Point
84:
85:         // Route One - Stop
86:         LED_Flow_One_Red = 1;
           // Traffic Light One - Red Light On
87:         LED_Flow_One_Yellow = 0;
           // Traffic Light One
88:         LED_Flow_One_Green = 0;
           // Traffic Light One
89:         // Route Two - Prepair to Stop
90:         LED_Flow_Two_Red = 0;
           // Traffic Light Two
91:         LED_Flow_Two_Yellow = 1;
           // Traffic Light Two - Amber Light On
92:         LED_Flow_Two_Green = 0;
           // Traffic Light Two
93:         // Pedestrian - Stop
94:         LED_Pedestrian_Green = 0;
           // Pedestrian Light
95:         LED_Pedestrian_Red = 1;
           // Pedestrian Light - Red Light On
96:
97:         Delay_ms(1000);
           // 10 Second Delay
98:     }
99:     for (i=0; i<10; i++)
           //After 39 Seconds
100:    {
101:        PORTC = 0X99;
           // Port C Output Set Point
102:        PORTD = display [i];
           // Port D Output Set Point
103:
104:        // Route One - Stop
105:        LED_Flow_One_Red = 1;
           // Traffic Light One - Red Light On
106:        LED_Flow_One_Yellow = 0;
           // Traffic Light One
107:        LED_Flow_One_Green = 0;
           // Traffic Light One
108:        // Route Two - Stop
109:        LED_Flow_Two_Red = 1;
           // Traffic Light Two - Red Light On
110:        LED_Flow_Two_Yellow = 0;
           // Traffic Light Two
111:        LED_Flow_Two_Green = 0;
           // Traffic Light Two

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112:         // Pedestrian - Go
113:         LED_Pedestrian_Green = 1;
114:         // Pedestrian Light - Green Light On
115:         LED_Pedestrian_Red = 0;
116:         // Pedestrian Light
117:         Delay_ms(1000);
118:         // 10 Second Delay
119:     }
120:     for (i=0; i<1; i++)
121:         // After 49 Seconds
122:     {
123:         PORTC = 0X92;
124:         // Port C Output Set Point
125:         PORTD = display [i];
126:         // Port D Output Set Point
127:         // Route One - Stop
128:         LED_Flow_One_Red = 1;
129:         // Traffic Light One - Red Light On
130:         LED_Flow_One_Yellow = 0;
131:         // Traffic Light One
132:         LED_Flow_One_Green = 0;
133:         // Traffic Light One
134:         // Route Two - Stop
135:         LED_Flow_Two_Red = 1;
136:         // Traffic Light Two - Red Light On
137:         LED_Flow_Two_Yellow = 0;
138:         // Traffic Light Two
139:         LED_Flow_Two_Green = 0;
140:         // Traffic Light Two
141:         // Pedestrian - Go
142:         LED_Pedestrian_Green = 1;
143:         // Pedestrian Light - Green Light On
144:         LED_Pedestrian_Red = 0;
145:         // Pedestrian Light
146:         Delay_ms(1000);
147:         // Delay
148:     }
149: }
150: while(1);
151: // End of Do-While Loop
152: }
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