**Appendix**

Default Layout of 16x16 LED

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | M1 | | | | | | | | M2 | | | | | | | |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| PORTC | RC0 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| RC1 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| RC2 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| RC3 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| RC4 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| RC5 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| RC6 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| RC7 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | | M3 | | | | | | | | M4 | | | | | | | |
| PORTD | RC0 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| RC1 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| RC2 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| RC3 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| RC4 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| RC5 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| RC6 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| RC7 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| PORTB | HEX | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | 08h | 09h | 0Ah | 0Bh | 0Ch | 0Dh | 0Eh | 0Fh |
|  | Y0 | Y1 | Y2 | Y3 | Y4 | Y5 | Y6 | Y7 | Y0 | Y1 | Y2 | Y3 | Y4 | Y5 | Y6 | Y7 |
| D2-0 | 000 | 001 | 010 | 011 | 100 | 101 | 110 | 111 | 000 | 001 | 010 | 011 | 100 | 101 | 110 | 111 |
| E4-3 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 01 | 01 | 01 | 01 | 01 | 01 | 01 | 01 |