

Anthony Nguyen

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## Lab 2 Calculations

Port A to Segment Resistors

$$V_{pin} = V_{cc} = 5V$$

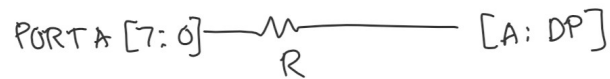
$$I_{maxrating} = 25mA$$

$$R = \frac{V}{I} = \frac{V_{cc}}{I} = \frac{5V}{25mA} = 200\Omega$$

$$V_{pin} = V_{cc} = 5V$$

$$I_{avg} = 1mA$$

$$R = \frac{V}{I} = \frac{V_{cc}}{I} = \frac{5V}{1mA} = 5000\Omega$$



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The LED segment will be visible by because the max rating for the current is given and that will guarantee be visible.

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Decoder resistor values

$$V_{cc} = 5V$$

$$I = 20mA$$

$$R = \frac{V_{cc}}{I} = \frac{5V}{20mA} = 250\Omega$$

$$V_{cc} = 5V$$

$$R = 1k\Omega$$

$$I = \frac{V_{cc}}{R} = \frac{5V}{1k\Omega} = 5mA$$