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Lab 5: MOSFETs

Components:

- 1KΩ
- 3.9KΩ
- 5.6KΩ
- 6.2KΩ
- 39KΩ
- 56KΩ
- 1μF
- 10μF
- 2N7000 n-channel Mosfet
- 2N3904 npn transistor
- LED

Equipment:

- breadboard
- Analog discovery
- Dual Powr supply
- DMM Handheld
- DMM benchtop
- Bench "shoe box"

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TITLE PROJECT

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Pre-lab:

- Perform all calculations
- Look up 2N7000 n-channel MOSFET datasheet and find and write

a) V_{TH} range of voltages

b) What is the range of K_n values. Find it using the formula

$$I_D = \frac{1}{2} K_n (V_{GS} - V_t)^2$$

$$K_n = \frac{2 \cdot I_D}{(V_{GS} - V_t)^2}$$

using:
$V_{GS} = 4.5V$
$I_D = 75mA$

$$K_n = \frac{2(.075)}{(4.5 - 3)}$$

$K_n = 0.1$

$V_{GS(TH)}$ *

min	Typical	max
0.8V	2.1V	3V

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