Day 6

Transistors
1. Consider the zener-diode voltage regulator shown below. [Steck Prob. 3.2]

Suppose you design this circuit to drive (supply) a load resistance $R_L$ connected to $V_{out}$.
Transistor Man!

\[ I_C = h_{FE} I_B \]

From H&H
Better Analogy
Transistors
Transistors

Never assume pin assignments, always look at the datasheet!

2N3904 NPN Transistor

C-E Voltage: 40V
C-B Voltage: 60V
Collector Current: 200mA

(max values)
Does this work?

Simple dimmer

5 V

$R_c = 330$
Switch
Question 2

What is $V_c$?
Final Question

What is $V_c$?

[ Circuit Diagram]

- 15 V
- $R_c = 1k$
- 5.6 V
- $V_c$
- $R_E = 1k$
- Ground