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## Introduction to Electronics (CIE 212)

### Lab Assignment 2

1.

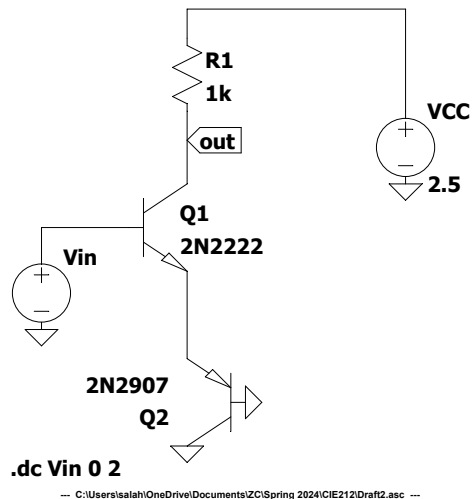


Figure 1

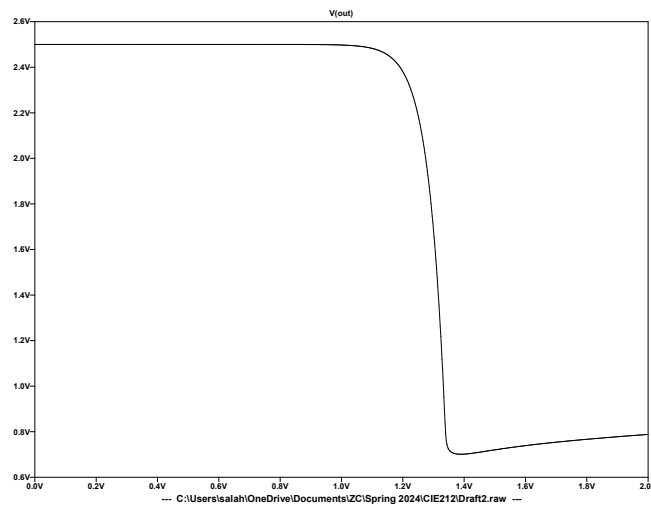


Figure 2

The formula for transconductance is

$$g = \frac{I_c}{V_t}$$

Calculating, we get a value of  $\frac{1}{50}$ S. Where the value of  $V_t$  is 1.5V, and the value of  $I_c$  is 0.5mA.

2.

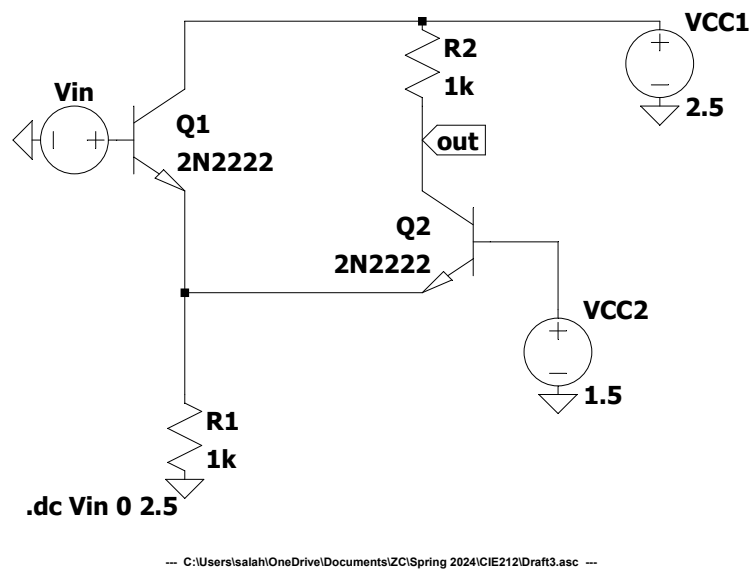


Figure 3

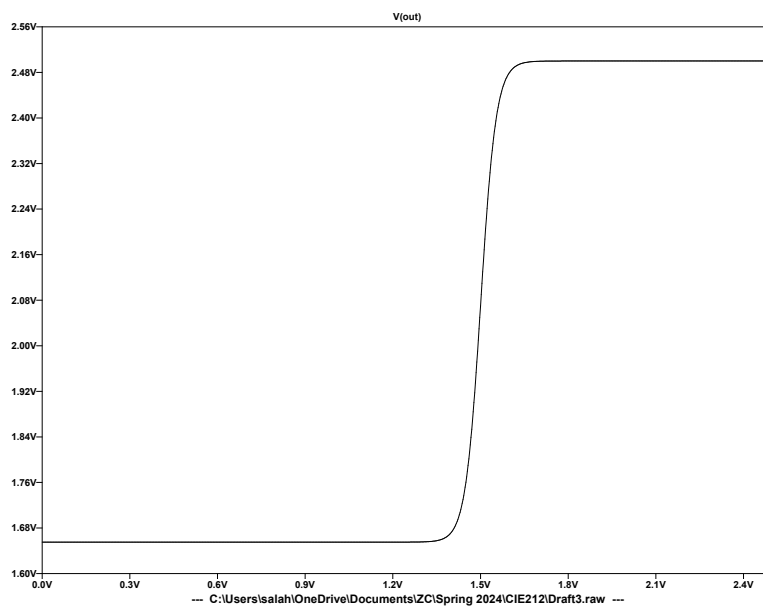


Figure 4

The value of  $V_t$  is 1.5V, this can be intuitively explained by the fact that the circuit configuration is symmetric around  $Q_1$  and  $Q_2$  with  $Q_2$  base voltage of 1.5V.