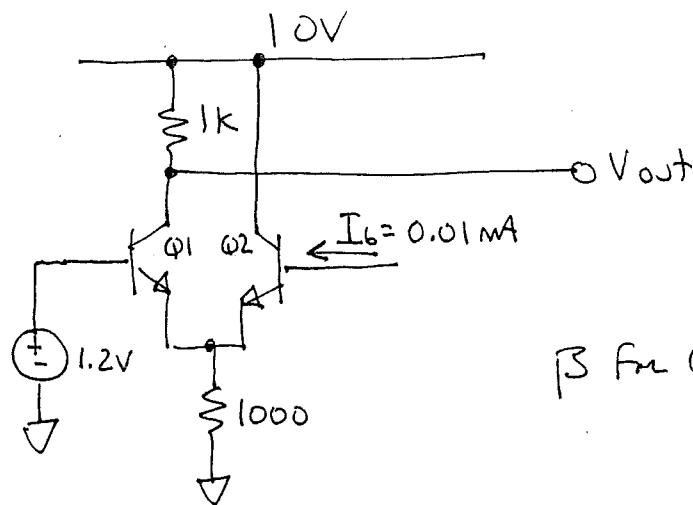


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Consider the circuit below, Q2 is operating in the active linear region. What is V_{out} ?



$$\beta \text{ for } Q_1 + Q_2 = 100$$

IF Q₂ is Active Linear, and if $I_B = 0.01\text{mA}$, $I_e \approx 1\text{mA}$.
The voltage across 1000Ω resistor is 1V. So if $V_{B1} = 1.2\text{V}$
Q₁ is not "on" As the b-e junction is not forward biased.
So if Q₁ is off, $V_{out} = 10\text{V}$