Lectures 8&9, Voltage Swing, Amplifier Design, Emitter Degeneration, Emitter Followers, Multistage
E151/3 F17 – Matthew Spencer

1. Find the Rin, Rout and Av and Gm (the small signal transconductance of a Norton amplifier model instead of our usual Thevenin model) of an emitter degenerated common emitter amplifier if ro is included in the calculations.

2. Find the output voltage swing of an emitter follower which is biased with a large signal voltage source on its base in series with the signal source. (This is the same "impractical" biasing scheme we've been looking at in lecture.) The base bias voltage is VB, the saturation voltage of the BJT is Vce,sat, and the power supply is Vcc. Report both the maximum and minimum acceptable voltages as part of your answer.