Homework 9 - ECE 1238

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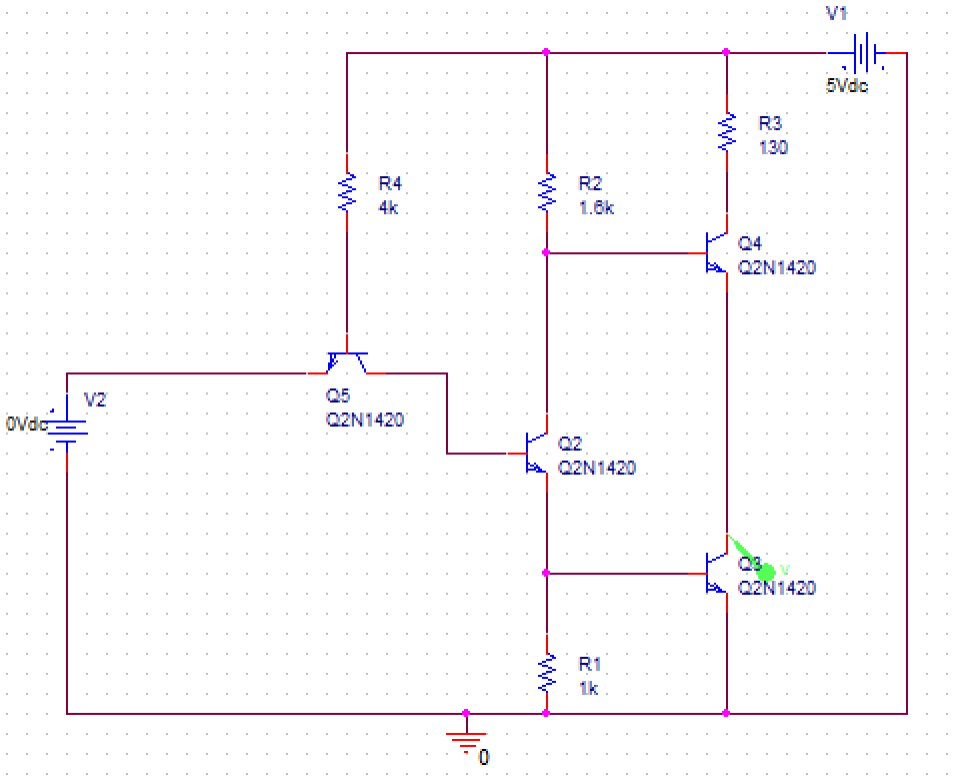
1) V(OH) = V(cc) – 2V(BE on) = 5 – 2 x 0.7 = 3.6 V

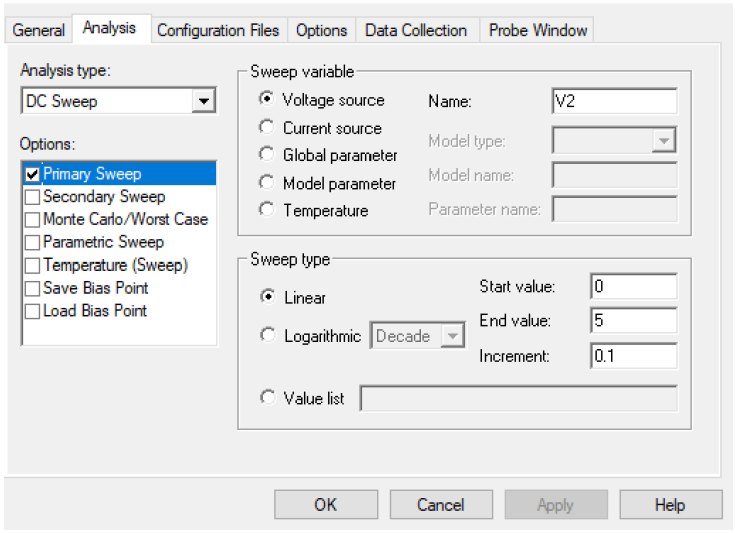
   V(IL) = 0.6 V since V(c1) = 0.7 V and V(CE sat) = 0.1 V so V(E1) = V(IL) = 0.6 V

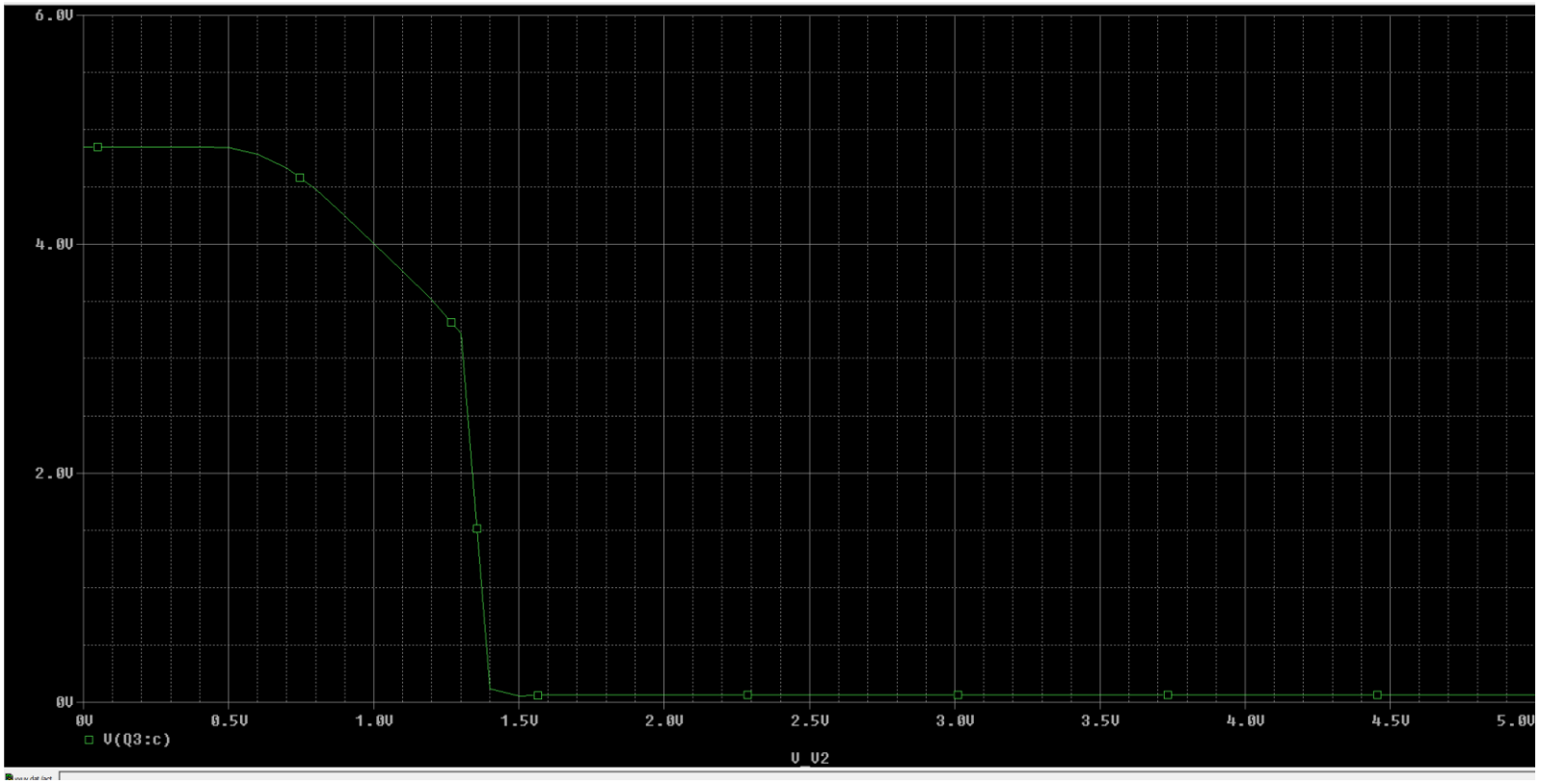
   V(c1) = 2V(BE sat) = 1.6 V and V(CE sat) = 0.1 V so V(IH) = 1.6 – 0.1 = 1.6 V

   V(OL) = 0.1 V

2)







Graphically: VOH ≈ 4.85 V; VIL ≈ 0.5V; VOL ≈ 0.118V ; VIH ≈ 1.4V

Results are not the same as analytical ones because I had to include the diodes in my circuit but for some reason I am not able to edit their properties, it always raises an error when I try to simulate.