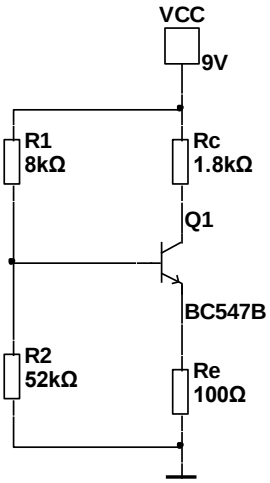
Calculating the load line



Calculating the intersection with the Uce axis

Uv = Vcc

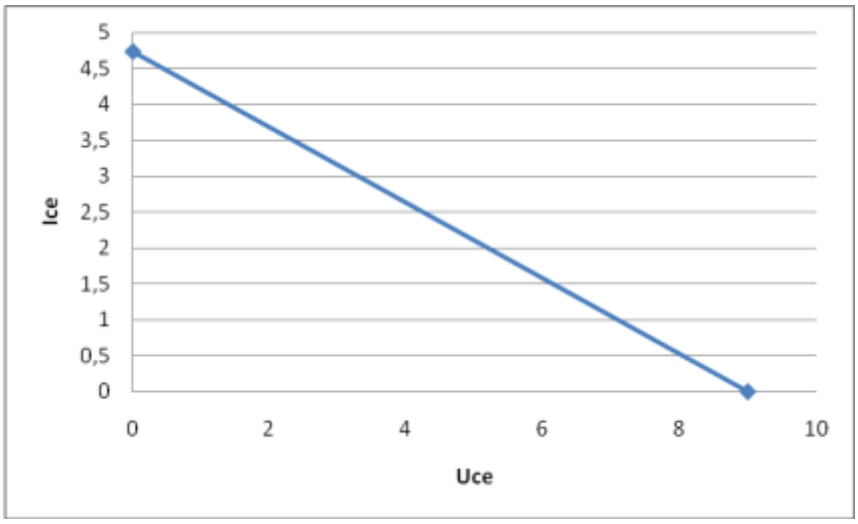
Uv = Ic * Rc + Uce + Ie *Re En Ie ≈ Ic

Dus: **Uv = Ic*Rc + Uce + Ic*Re**

I take Ic = 0 (open switch) now we can say: Uv = Ic*Rc+Uce+Ic*Re = ~~0*Rc~~+Uce+~~0*Re~~ → Uv = Uce = **9V**

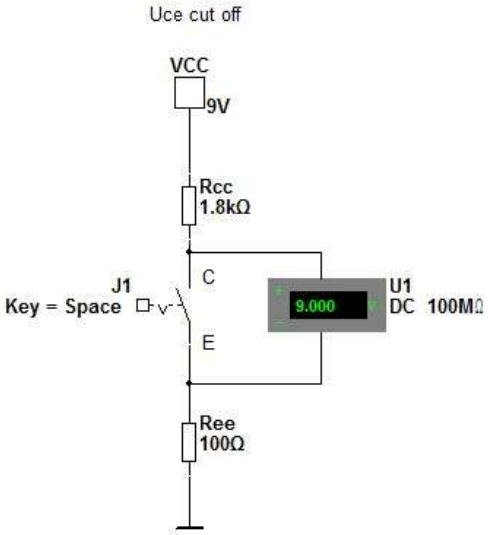
Calculating the intersection with the Ic axis: I take Uce ≈ 0 (In saturation ≈ 0,1V but to hold it easy)

Then we can say: Uv = Ic*Rc+Uce+Ic*Re = Uv = Ic*Rc + 0 + Ic*Re → $Ic = \frac{Uv}{Re+Rc}$ → $Ic = \frac{9}{100+1800}$ = **4,74mA**

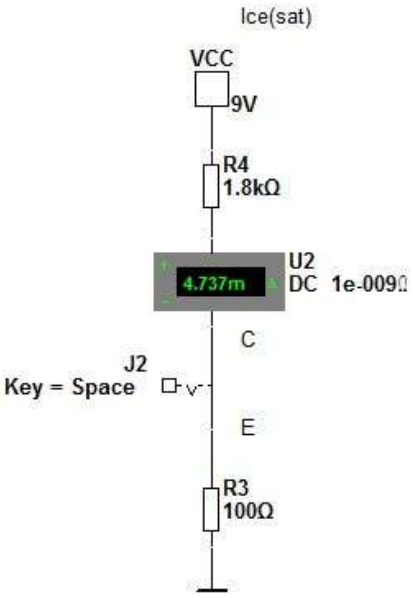


Simulations:

For Uce cut-off:


Uce cut off
VCC
9V
Rcc
1.8kΩ
C
J1
Key = Space
E
9.000
U1
DC 100MΩ
Ree
100Ω

For Ic(sat)


Ice(sat)
VCC
9V
R4
1.8kΩ
4.737m
U2
DC 1e-009Ω
C
J2
Key = Space
E
R3
100Ω