Department Of electrical and computer Engineering

ENEE2103 CIRCUITS AND ELECTRONICS LABORATORY

Experiment No.9 Prelab

Insructer: Dr. Alhareth Zyoud

Made By: Islam Jihad

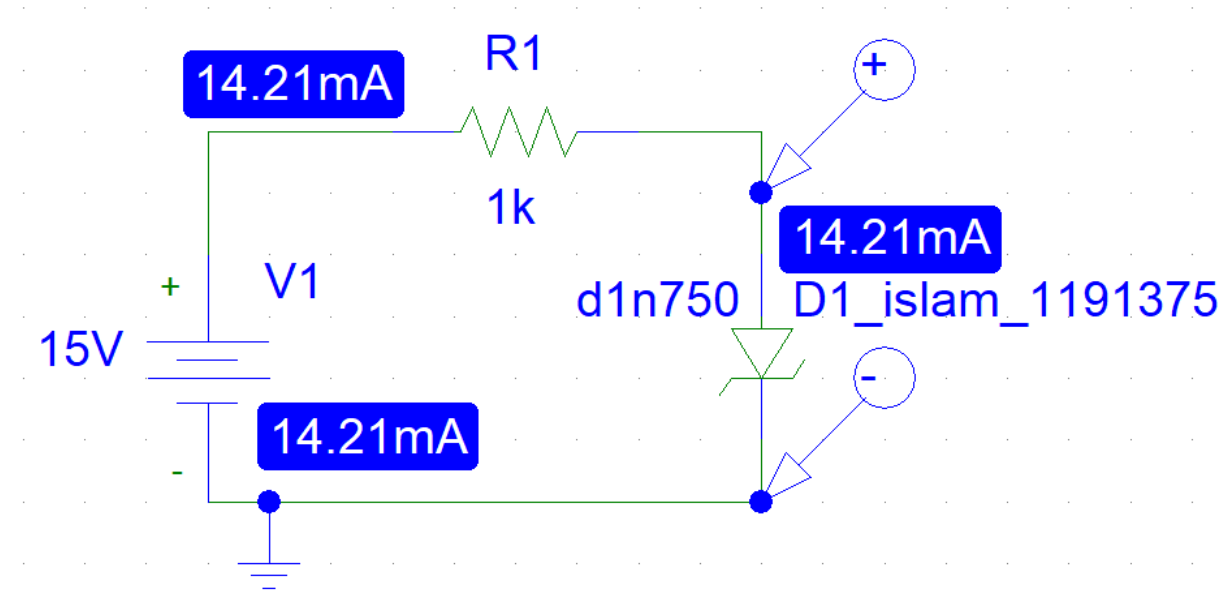
ID: 1191375

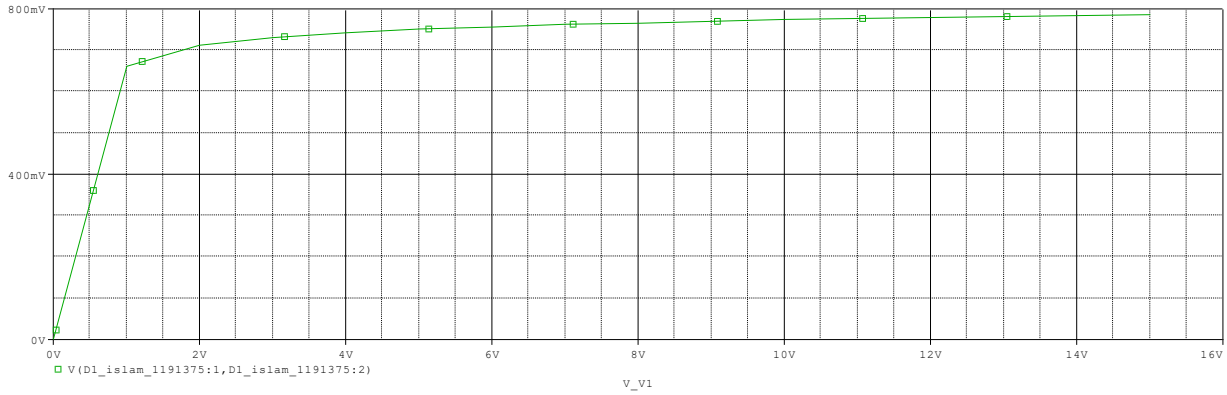
TA: MR. Ismail Abualia

Date: 7/Nov/2021

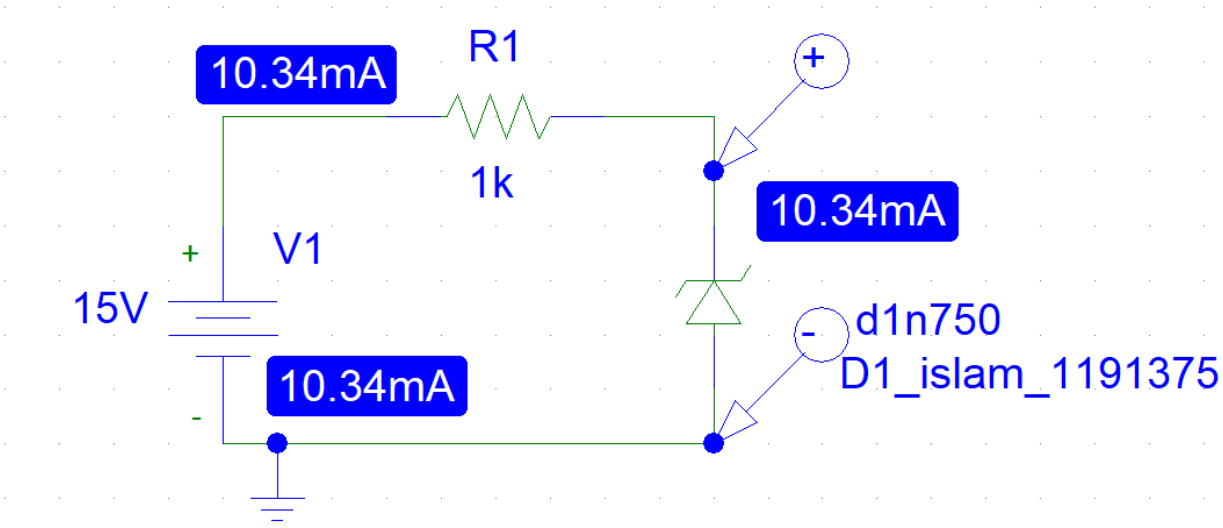
I.ZENER DIODE.

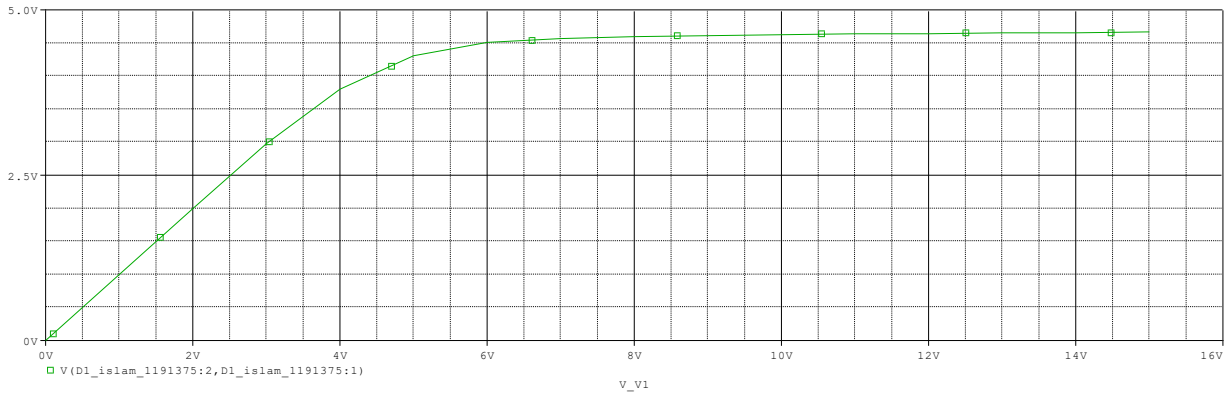
Part1:



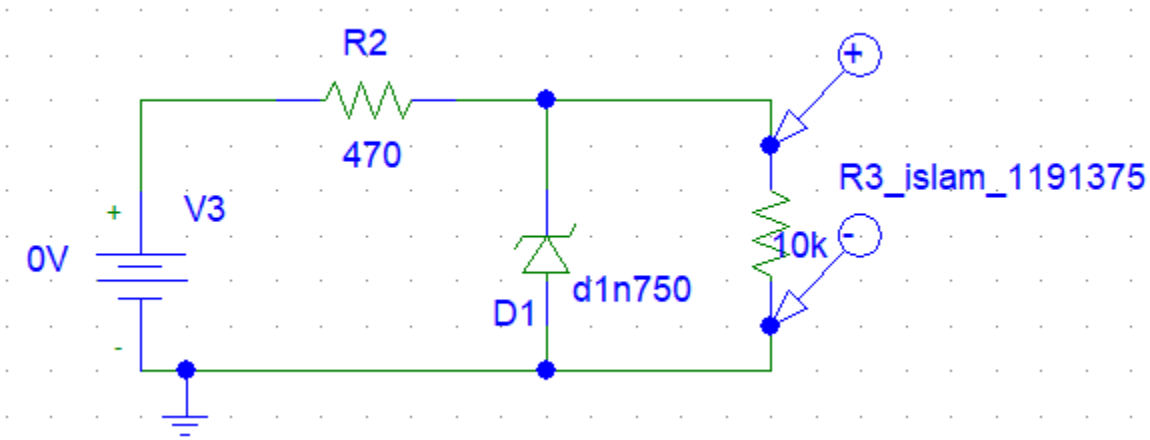


Part2:

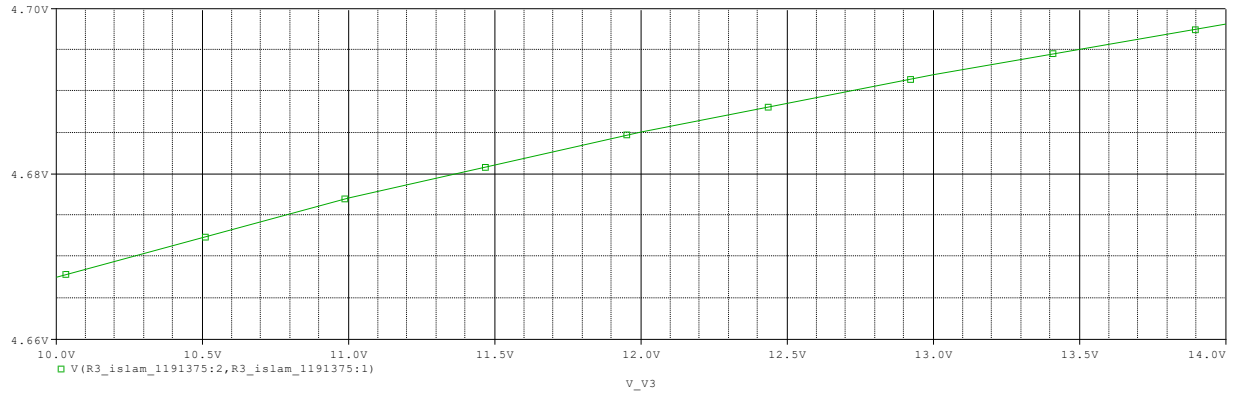

10.34mA
R1
1k
10.34mA
+
V1
15V
10.34mA
-
d1n750
D1_islam_1191375


5.0V
2.5V
0V
0V
2V
4V
6V
8V
10V
12V
14V
16V
V(D1_islam_1191375:2,D1_islam_1191375:1)
V_V1

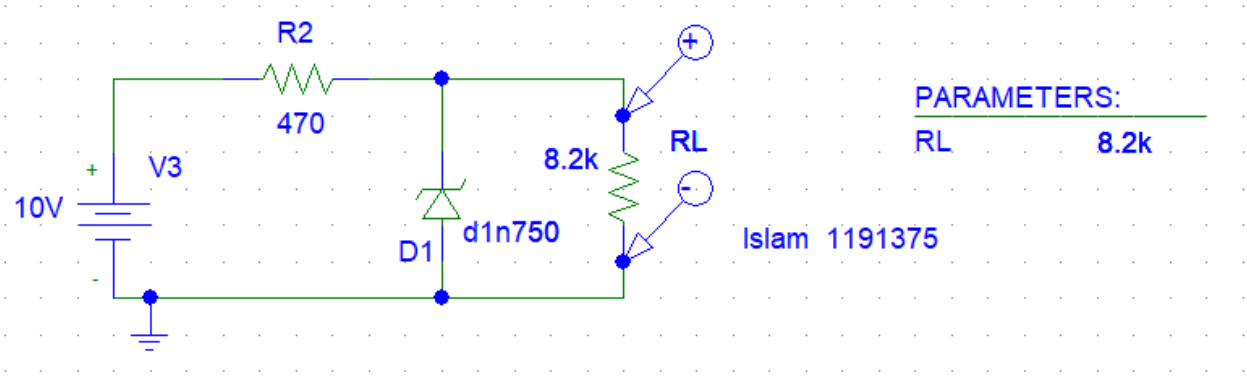
Part3:

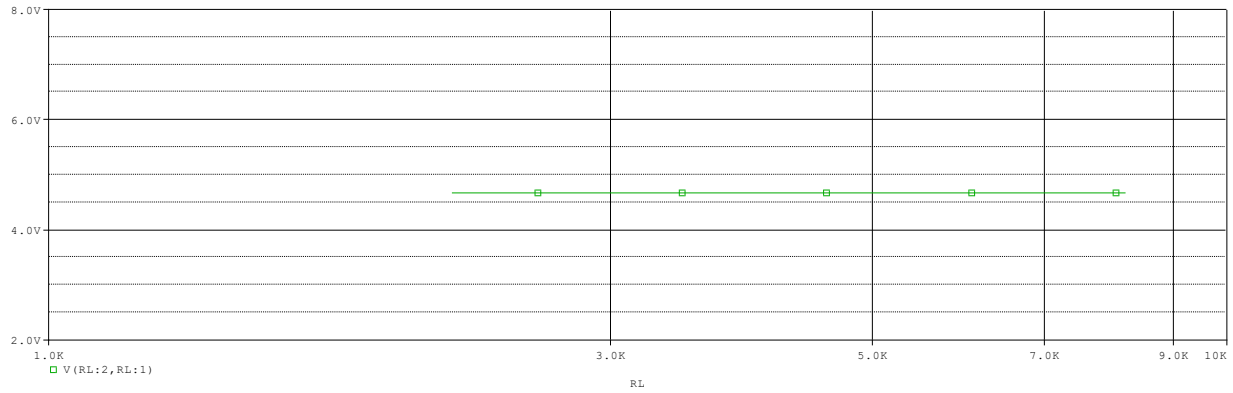

R2
470
+
V3
0V
-
D1
d1n750
R3_islam_1191375
10k

With dc sweep and Vin=0

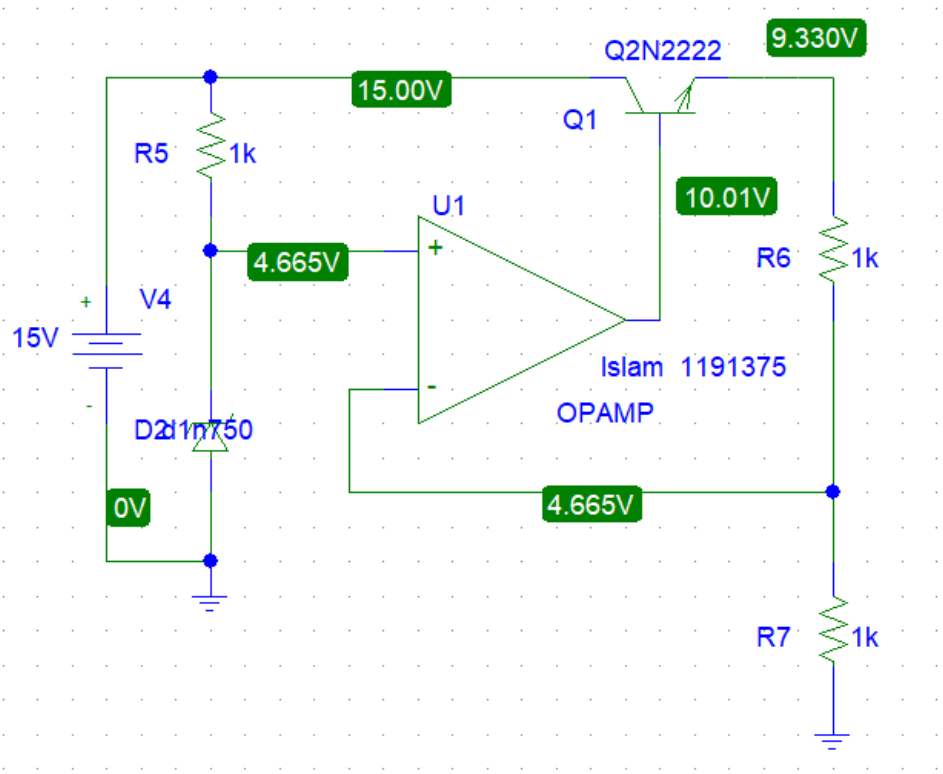


Vdc=10V and sweep the resistance





II. THE VOLTAGE REGULATED POWER SUPPLY.



V_{OUT}=9.33V

V_{IN}=15V

V_Z=4.665V

V_{OUT}= 2*V_Z

When I added the load resister to the output the output was=9.3295V

And the current output was=9.33mA

3.

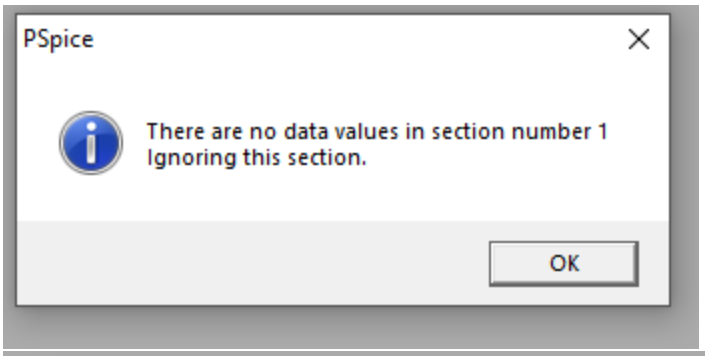
A. for R=680 I got the same voltage for r=1k but the current was =13.72mA

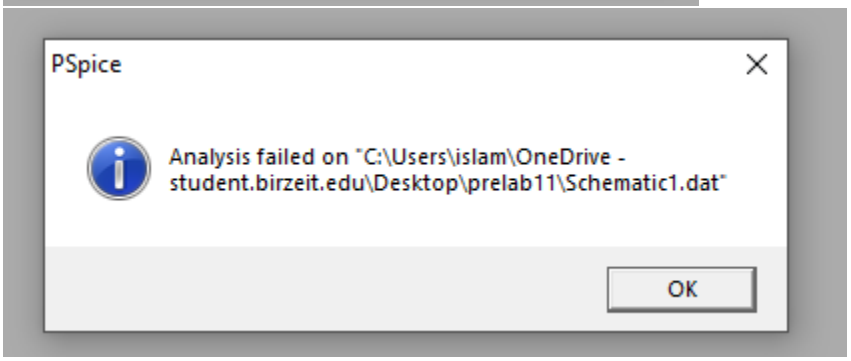
B. for R=470 I got the same voltage for r=1k but the current was =19.85mA

C. for R=220 I got the same voltage for r=1k but the current was =42.41mA

D. for R=100 the PSpice can't solve it due to low resistance

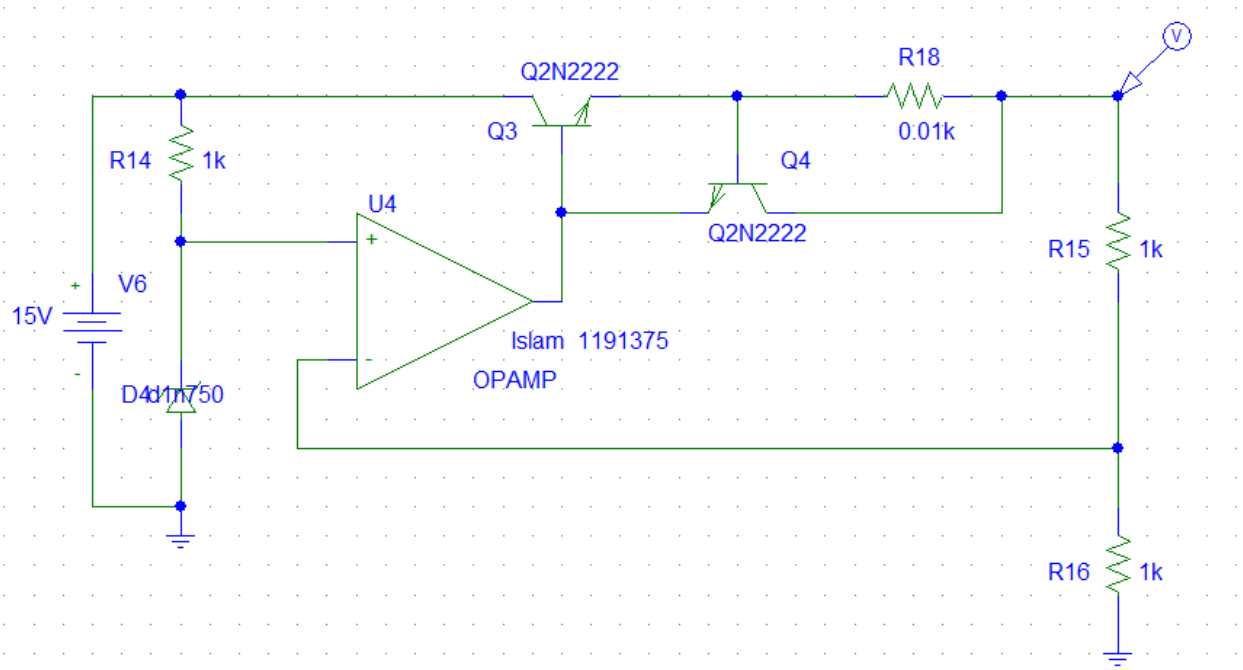
4. I got the same error for small values





But I think it will be bigger, Vout> Vz

5. when R2=2.2k the output voltage were= 6.7851V



7. I got the same error because of the 10ohm resister and I can’t calculate anything

8. the 10 ohm resister prevent me from calculating or adding any other component