[illegible], Denise Wang
EC ENGR 3 Lab 1B
Week 3 Lab 3

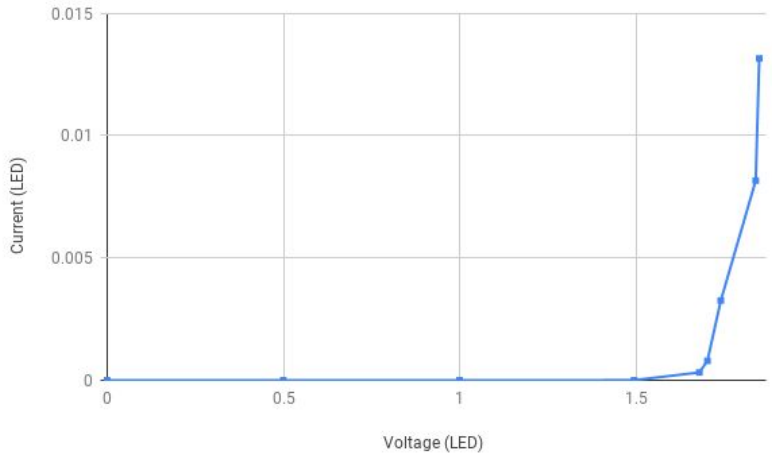
Photoconductor Resistance
In darkness: 0.8 MΩ
In bright light: 1 KΩ

Light-Emitting Diodes (LEDs)

Supply Voltage	Voltage (Resistor)	Voltage (LED)	Current(LED)
0V	0	0	0
0.5 V	0	0.5	0
1.0 V	0	1.0	0
1.5 V	0.005	1.495	0.000005
2.0 V	0.320	1.680	0.00032
2.5 V	0.797	1.703	0.000797
5.0 V	3.259	1.741	0.003259
10 V	8.160	1.840	0.008160
15 V	13.15	1.850	0.013150

At approximately what LED voltage does the LED start to glow? 2.0 V

Plot LED current vs. LED voltage in the given space below.



Phototransistors

	100KΩ		47KΩ		10KΩ	
	Voltage	Calc'd Current	Voltage	Calc'd Current	Voltage	Calc'd Current
Object Above	0.220	0.0000485	0.216	0.000103	4.127	0.0000946
No Object	4.023	0.0000105	4.971	0.0000021	5.051	0.0000022

Motors and Generators

Duty Cycle %	Average Motor Volts	Average Current Amps
20	1.17	0.07
30	1.72	0.11
40	2.28	0.13
50	2.84	0.13
60	3.39	0.14
70	3.95	0.14
80	4.51	0.14
90	5.06	0.14
80	4.50	0.13
70	3.95	0.13
60	3.39	0.12
50	2.83	0.12
40	2.27	0.11
30	1.72	0.09
20	1.16	0.07
10	0.60	0.03

What voltage and current are required to just start the motor spinning? 1.17 V, 0.07 amps

Current vs. voltage plot: