ETME 4130 Applied Electric Power and Machinery
Lab 3: DC Motors

Pre-Lab Analysis:

1. **Name five types of DC machines?**

2. **Which DC machines can supply the highest power to weight ratio?**

3. **If the DC motor in each of the following cases was initially rotating clockwise. What is the direction of rotation of the motor in each case below:**

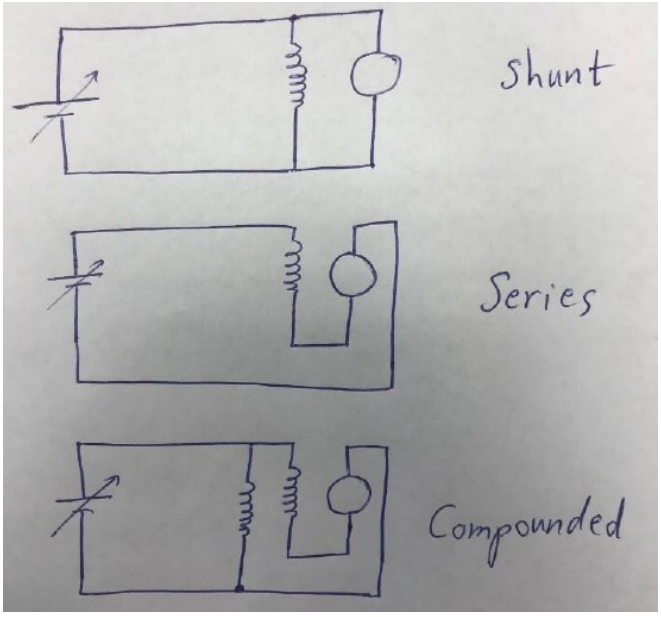
   Case 1: The motor is a series DC motor, and the rotor connection was reversed. _____

   Case 2: The motor is a shunt DC motor, and the shunt winding was reversed. _____

   Case 3: The motor is a shunt DC motor, and both the rotor winding and the shunt winding connections were reversed. _____

Lab Work:

- Make sure that you wear your safety glasses continuously in the lab
- Make sure that the power is turned off before you start connecting the circuit
- Connect the circuit of each motor shown in the figure. Then reconnect the circuits to reverse the motors. Everytime you finish a connection, raise your hand. Do NOT turn on the power until the professor approves your circuit. A video of the experiment can be found on YouTube at: https://www.youtube.com/watch?v=GS91ybdbwWU



Post-Lab Analysis:

1. In one paragraph, describe the experiment steps that you did in the lab:

2. Explain how you can reverse the rotation of a shunt dc motor