1. **Design a Single cell -1 bit Carry propagate (Ripple Carry Adder) full adder. (6 pts)**
    a. **Generate the truth table**
    b. **Using K-map, determine the logical expression for Carry out (C-out) and Sum (S)**
    c. **Based on the logical expression, create the schematic diagram for full adder**

2. **Design a 1 bit, 2 to 1 multiplexer (Mux) (6 pts)**
    a. **Generate the truth table**
    b. **Using K-map, determine the logical expression for output**
    c. **Based on the logical expression, create the schematic diagram for Mux**