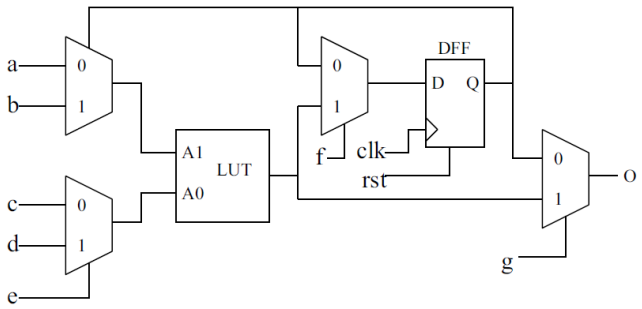
ECE428/528 Homework 2

1. Design a programmable circuit block with the following specifications. Show your implementation.
   a. Input ports: A, B
   b. Clock input port: clk
   c. Output port: Q
   d. Configuration inputs: C1, C2
   e. Its functions are given below:

C1 C2	Circuit function
0 0	Positive edge triggered DFF, the DFF input is A and output is Q
0 1	Negative edge triggered DFF, the DFF input is B and output is Q
1 0	Positive edge triggered DFF, the DFF input is (A+B) and output is Q
1 1	Circuit output is at high impedance state

2. The following is a programmable cell. Fill the following tables to show how to program the cell for implementing function $O = x + \overline{y} \cdot z$



a	b	c	d	e	f	g

(Fill the tabel with 0, 1, x, y, z)

Address A1 A0	00	01	10	11