Adder Design

Task1: Full adder design by using basic logic gate

Use XOR(7486), OR(7432), AND(7408) gate to design Half adder and full adder and test logic function.

Task2: 74LS283 adder

74LS283 is an integrated IC adder which can do two's 4 bits addition, where C4 is the carry to next bit, C0 is carry from previous bit. A, B are inputs and ∑ are outputs. Please check the 74283 outpins and logic truth table

Use 74283 to design 4 bits adder. Inputs are A4A3A2A1 and B4B3B2B1, output ∑4-1 are connected to A, B, C, D of 7 LED, and then check the sum.

Note:

1. 74283 has 16 pins, please put it into 16 pin's sockets
2. A1(Lower bit)-A4(high bit), others are similar.

Design after class

Design a full subtractor