



King Saud University
College of Computer and Information Sciences
Department of Computer Science

CSC 220: Computer Organization

Tutorial 5: Adder Subtractor

Q1: What is a half adder? Write the truth table of a half adder circuit and draw the circuit diagram.

Q2: Write the truth table for the Full adder circuit.

Q3: Derive the expressions for the sum (S) and carry (C) from the truth table for full adder. Draw the full adder circuit diagram using above expressions.

Q4: Draw the 4-bit **binary parallel adder-subtractor** with overflow detection. Show the **inputs and outputs** of the circuit to compute **(6 – 2)**. (Hints: Draw the circuit only once and use $A = 6, B=2$).

Home Works

Text book problems: 3-50, 3-64