

CSE222 Computer Architecture and Organization
Spring 2020, CS SCCC

Project: Convert binary numbers

▪ **Part I**

- **Function:** Design a logic circuit to perform the following function:
Convert 4-bit sign/magnitude binary to 4-bit 2's complement number
- Requirement
The completed project will include:
 1. A brief description of the design;
 2. A truth table;
 3. Simplified Boolean expressions;
 4. Two logic diagrams which are
 - The implementation in logic gates
 - The implementation in multiplexers

▪ **Part II**

- Write a MIPS program to perform the conversion of 32-bit sign/magnitude binary to 2's complement numbers.
- Requirement
 - Input of program: a sign/magnitude binary number
 - Output: 2's complement binary number

The completed project will include:

 1. A brief description of the implementation
 2. Executable MIPS program

▪ **Due**

05/16/2020