

CS 230 : Discrete Computational Structures
Section B

Spring Semester, 2021

CLASS ASSIGNMENT #1

TUESDAY, FEBRUARY 2

YOUR NAME (LAST, FIRST):

NAMES OF ALL GROUP MEMBERS (LAST, FIRST):

1. **[5 Pts]** Translate the following English sentences into logic. Let s , w and p be the propositions “it is sunny”, “it is a weekend”, and “I play ball” respectively.
 - (a) If it is not the weekend and I play ball, then it must be sunny.
 - (b) I play ball only if it is a sunny weekend.

2. **[5 Pts]** State the converse, inverse and contrapositive of the statement “if it is my birthday, then I will go out to eat.”

3. **[5 Pts]** Construct the truth table for $X = (p \leftrightarrow q) \wedge (q \leftrightarrow r)$.

4. **Extra Credit [5 Pts]** Then construct a DNF proposition that is equivalent to X .