CS280 Fall 2021 Assignment 3
Part A

RNN, LSTM and GRU

November 22, 2021

Name:

Student ID:

1. Parity-check network (10 points)

Note that the initial parity bit is 1, what's the relation between each input and the previous parity bit? Determine the relation between the parity and inputs and complete the parity bits(p_1, p_2, p_3, p_4) and design and draw a RNN to predict parity.

Parity bits :	0	0	0	1	0	1	p_1	p_2	p_3	p_4	$\rightarrow$
Input :	0	1	1	0	0	0	1	1	0	0	

2. GRU (5 points)

1. Draw the diagram of GRU, describe the gates (where? What is the role of each gate?), and point out the differences between GRU and LSTM in the design of gates.
2. In what situations(s) is LSTM/GRU used respectively? Explain your reason.