McGill University
ECSE 222 – Digital Logic (Fall 2022)
Pen-and-Paper Assignment #1

Instructions

- TA in charge: Xiangyu Li(xiangyu.li3@mail.mcgill.ca)
- Write/type your answers in the space provided.
- Due date: Friday, September 16, 2022 by 11:59 p.m. EDT.
- You must electronically submit the assignment in the form of a PDF file (only this format will be accepted) on myCourses before the deadline. You may submit as many times as you want, however, only the last submission will be kept by the system.
- You must solve the assignment in teams of two students, whereas only one of the students should perform the actual electronic submission.
- Late submissions will incur penalties as described in the course syllabus.

Student identification

First student full name	
First student ID number	
Second student full name	
Second student ID number	
Third student full name (if applicable)	
Third student ID number (if applicable)	

Evaluation (for course graders use only)

Question 1 (30%)	Question 2 (40%)	Question 3 (30%)	**Total**

Question 1 (30%)

Consider the following logic expression. Write down the truth table for the expression

$$F = (X + \bar{X}Y)(\bar{Y} + X\bar{Z})$$

Question 2 (40%)

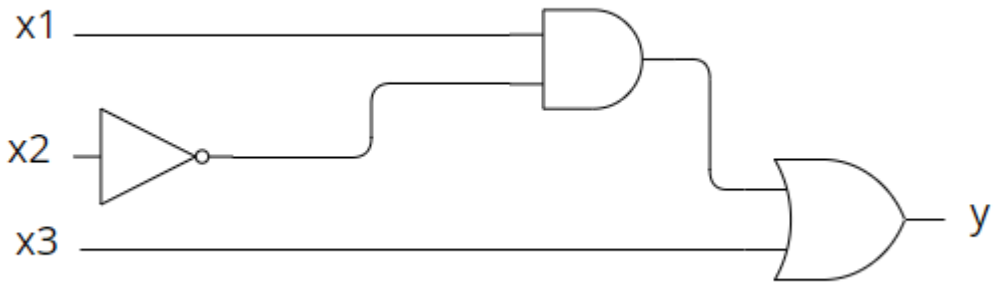
Consider the following logic expression. Write down the VHDL code for both structural programming and behavioral programming

$$F = (X + \bar{X}Y)(\bar{Y} + X\bar{Z})$$

Structural Pattern (20%)	Behavioral Pattern (20%)

Question 2 (30%)

Consider the following logic circuit. In the space below, provide the corresponding truth table and logic function.



Truth table (20%)	Logic function (10%)