VisionForge: Assignment 1

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Due date: 14 Dec, 2023
Due time: 11:59PM

1A. Verilog Basics

1. The Binary Ballet - Crafting a Dance of 1s and 0s

Step into the mesmerizing world of the Binary Ballet! Your mission, as budding choreographers of code, is to design a Verilog module for the Binary Ballet's central dancer - the Half Adder. Picture a graceful dance where 1s and 0s twirl in perfect harmony, creating the magic of binary addition.

Get ready to choreograph the elegance of digital ballet!

2. Decoding Extraterrestrial Signals

You aim to design a 1 to 2 decoder for a space exploration project. Imagine yourself as a space explorer attempting to decipher signals from an alien civilization that communicates using only two signals. Your task is to develop a Verilog module for a 1 to 2 decoder to make sense of extraterrestrial messages.

Good luck, space explorers!

- *Note - Run your codes on VS Code and test them using the testbench file. You have to submit both the module file and the testbench file.*

1B. Python Libraries

1. Unleashing Python's Trio of Power

Welcome! Here, you'll embark on a Pythonic journey, harnessing the magical trio of Numpy, Pandas, and Matplotlib. Imagine yourself as a data sorcerer, conjuring insights from the vast realms of information. Your mission is to demonstrate your mastery of these basic Python libraries in this Google Colab file filled with intriguing questions and mystical coding challenges.

Instructions:

- Dataset Access: Find the treasure trove of data in the drive link.
- Enchanted Libraries: Your magic wand includes Numpy, Pandas, and Matplotlib - use them wisely.
- Alchemical Coding: Craft your spells (code) to decode the secrets hidden within the dataset.

May your journey be as simple as casting spells!