

## Python Project Announcement: **Show your talents in Python!**

Hello, everyone!

For our project, I am excited to introduce (**Show your talents in Python!**) You will have the opportunity to create a simple game/application using Python and apply what you've learned about loops, conditionals, functions, and user input—now with the added challenge of building a graphical user interface (GUI).

### **Your Task:**

Choose one of the games from the list below/ or choose any game/application you like, or come up with your own idea (subject to approval). Your goal is to create a working version of the game using Python and implement a GUI using any library of your choice, such as **Tkinter**, **PyQt**, or **Pygame**, etc.

### **Suggested Games:**

1. **Tic-Tac-Toe (X/O):** Build a two-player game where users take turns to place "X" or "O" on a 3x3 grid, using buttons or clickable areas.
2. **Number Guessing Game:** The computer picks a random number, and the player guesses it through a GUI with hints like "too high" or "too low."
3. **Rock, Paper, Scissors:** Play against the computer in this classic game, using buttons for "rock," "paper," and "scissors."
4. **Hangman:** The computer selects a word, and the player guesses letters through a graphical display of the word and incorrect guesses.
5. **Memory Game (Concentration):** Create a GUI where users flip cards to find matching pairs.
6. **Sudoku Validator:** Allow users to input a Sudoku board through a grid interface and validate the solution.
7. **Snake Game:** Create a simple version of the classic Snake game using a graphical grid.
8. **Simple Blackjack:** Simulate a text-based Blackjack game where the player competes against a computer dealer using buttons for actions like "hit" or "stand."
9. **Guess the Word Puzzle:** Unscramble a word that the computer has scrambled using an input box for guesses.
10. **Minesweeper (Simplified):** Create a grid-based game where players click on cells to reveal if they contain a mine.

### **Project Guidelines:**

- One project for **each student (No shared work accepted)**.
- Choose one game from the list or suggest your own.

- Use a Python GUI library like **Tkinter**, **PyQt**, or **Pygame** to build the interface.
- You are allowed to use **LLMs like: ChatGPT** for help or guidance during this project. However, you **must understand every part of the code** that you include in your project. **Be ready to explain how it works!**
- Focus on creating a **working version** first, then think about adding extra features.
- Submit your project on Canvas by **4/Nov**.

Happy coding 😊