CSCI102/ CSCE002 / CBIO202

# Project description

This project involves the development of a software program in ***Python***.

# Deliverables

## Source Code of the project

* + Use functions
  + Use descriptive names for functions and variables
  + Write a description for each function in a comment preceding the definition

## Documentation

O Description of the idea

* + Description of the roles and responsibilities of each team member
  + How to use the software

# Rules

* Students shall work in teams of 3 to 4 members **(Same lab number)**.
* All team members must be available for the discussion.
* 30% will be deducted from the project’s grade for late submission for a maximum of 12 hours.
* You can learn from different websites and tutorials, but you must mention these resources in your documentation.
* Learning from others doesn’t mean copying and pasting. So, source code written must be the work of the team members only. **Copying code from any source is considered plagiarism and will not be graded.**
* Each member in the team should write at least **3 functions** by himself.
* Each student will be graded according to his understanding and answers to the question. **Not all team members will receive the same grades.**

# Deadlines

|  |  |
| --- | --- |
| **Deliverable** | **Date** |
| Groups submission | 20/11 - 24/11 |
| Beta version submission | 11/12 - 15/12 |
| Full version submission + documentation submission + project discussion | 02/01 - 17/01 |

Evaluation Criteria

* Beta version submission **5%**
* Documentation submission **10%**
* Full version submission **15%**
* Discussion **70%**

# List of Project Ideas

You can choose one of the following ideas or implement your own. The maximum number of teams working on the same idea is 3. Assigned on a first come first-served basis.

## Note that you must register your Team and idea with one of your TAs.

**Visual Storyteller for kids** *(3-4 members)*

In this project you are required to design and implement a story telling software for kids. The software shall include images, text, and an audio reading of the text.

**Tetris Game** *(3-4 members)*

In this project you are required to implement the famous Tetris game.

**Gradebook Statistics Visualizer** *(3 members)*

In this project you are required to implement a statistics analyzer and visualizer for a gradebook.

Examples of statistics is the mean and average of a student’s grades.

**Spell Checker** *(3-4members)*

In this project you are required to implement spell-checking software. A spell-checking software includes a dictionary of words that when checking a document compares all words with words in the dictionary. When a word is incorrect the software can suggest alternatives.

**Match the Pictures Game** *(3-4members)*

In this project you are required to implement the game of matching pictures (memory). In every level several pictures are displayed and then flipped. A user passes the level if he’s able to open all the matching pictures together.

**Python Text Editor** *(4members)*

In this project you are required to implement a text editor for python code with syntax highlighting.

**Advanced Calculator with GUI** *(3 members)*

In this project you are required to implement an advanced scientific calculator program with a Graphical User Interface.

**Minesweeper** *(3-4 members)*

In this project you are required to implement the famous Minesweeper game.

**DBMS** *(3-4 members)*

In this project you are required to implement Database Management System software. The software should connect to a database and allow the user to add, update, or delete records.

**File Browser** *(3 members)*

In this project you are required to implement software for browsing files on Windows. The software should have a Graphical User Interface.

**Script for renaming files** *(3-4members)*

In this project you are required to implement a Python script that renames a set of files with distinct types, without using any built-in functions.

## Your Own Idea (3-4members)

In this project you are required to propose an idea for a project and the instructor’s approval.

# Project Samples from Previous Semesters

1. [Fall 19](https://web.microsoftstream.com/video/bbc38e60-d924-45ed-8b3a-73146faa5d52)

# [Spring 19](https://web.microsoftstream.com/video/732c4d27-fc7f-4dcc-b6f1-d8eb532fc809)

1. [Spring 20](https://web.microsoftstream.com/video/abf6b6d9-3b2f-4f67-adb4-10798b1dc18f)

# [Spring 21](https://web.microsoftstream.com/video/4db40527-96d2-439d-9aa6-f367afe6e1c8)

You may need to use graphical user interface (GUI) for your project, so kindly find the following two tutorials about it:

# [GUI Tutorial](https://web.microsoftstream.com/video/12ac8a8d-4a8d-4280-ace8-68995b3f6bcb)

1. [GUI Stanford Tutorial](https://youtu.be/JrWHyqonGj8)