Laboratory Activity No. 11	
The Grid Manager	
Course Code: CPE103	**Program:** BSCPE
Course Title: Object-Oriented Programming	**Date Performed:** 04/05/25
Section: 1-A	**Date Submitted:** 04/05/25
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1. Objective(s):

This activity aims to familiarize students on how to implement geometry manager

2. Intended Learning Outcomes (ILOs):

The students should be able to:
2.1 Identify the main components in a GUI Application
2.2 Create a simple GUI Application using Grid manager

3. Discussion:

A Graphical User Interface (GUI) application is a program that the user can interact with through graphics (windows, buttons, text fields, checkboxes, images, icons, etc..) such as the Desktop GUI of Windows OS by using a mouse and keyboard unlike with a Command-line program or Terminal program that support keyboard inputs only.

Geometry managers are tools used to place widgets on the screen. There are three geometry managers available in tkinter—grid, pack, and place. The place manager provides complete control in the positioning of widgets, but is complicated to program

Grids

- A grid is an imaginary rectangle containing horizontal and vertical lines that subdivide it into rectangles called cells. The first row of cells is referred to as row 0, the second row is referred to as row1, and so on. Similarly, the first column of cells is referred to as column 0, the second column of cells is referred to as column 1, and so on. Each cell is identified by its row and column numbers.

4. Materials and Equipment:

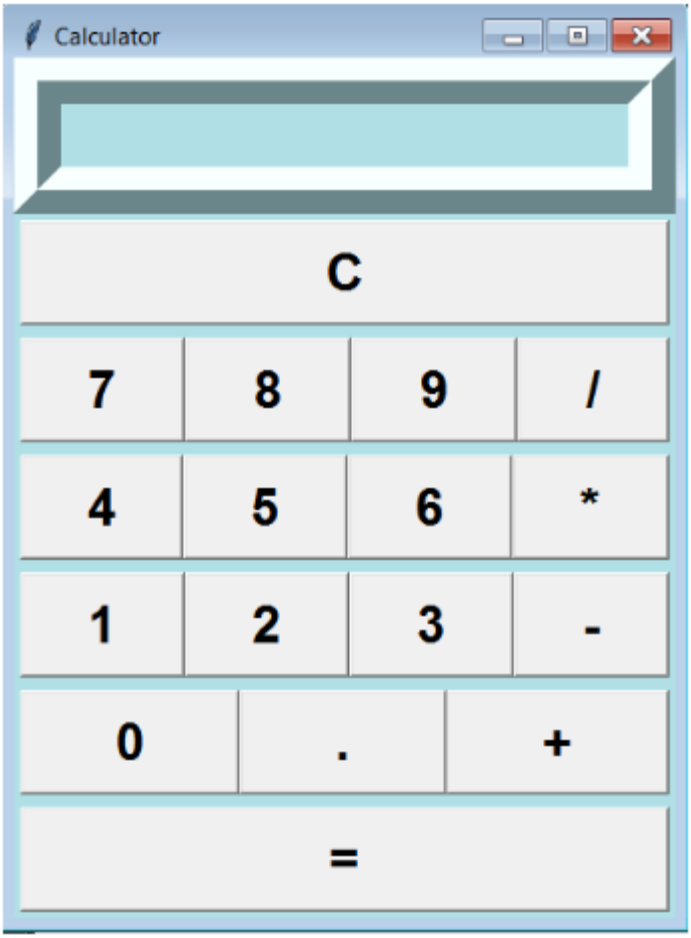
Desktop Computer with Pycharm
Windows Operating System

5. Procedure:

General Instruction:

1. Redesign the interface of the standard calculator using grid ( ) method:

PLEASE REFER TO MY GITHUB FOR MY ANSWERS



2. Run the program and observe the output when the button is clicked.

6. Supplementary Activity:

1. Make a calculator program that can compute perform the Arithmetic operations as well as exponential operation, sin, cosine math functions as well clearing using the C button and/or clear from a menu bar.
2. Use Geometry manager grid() **PLEASE REFER TO MY GITHUB FOR MY ANSWERS**

3. Use bind () or command parameter in associating event to callback a function.

Questions

1. How do you configure rows and columns in PyCharm when using Tkinter's grid() manager?

   - You use grid(row=, column=) to place widgets. You can also use rowconfigure() and columnconfigure() to control spacing and resizing.

   =
2. Why do widgets sometimes disappear when using grid() in PyCharm, and how can you fix it?

   - Widgets disappear if you forget to pack, grid, or place them, or if you mix grid() with pack(). To fix it, use only one layout manager per container and make sure every widget has a proper grid position.

3. How can message boxes be used to provide a better User Experience or how can message boxes be used to make a GUI Application more user-friendly? How can you align widgets across multiple frames using grid() in PyCharm?

   - Message boxes help by showing alerts, tips, or errors, so users know what's happening. It makes the app easier to use and more interactive. You can use the same row and column settings in each frame. Also, use padding and sticky options to make sure everything lines up well.

7. Conclusion:

Through this activity, I learned how to use the grid manager in making a simple GUI application. I was able to understand the parts of a GUI and how to place widgets properly using rows and columns. This helped me get more familiar with designing user interfaces using Tkinter.

8. Assessment Rubric