LaboratoryActivityNo.11	
The Grid Manager	
Course Code: CPE103	**Program:** BSCPE
Course Title: Object-Oriented Programming	**DatePerformed:**04/05/2025
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1. Objective(s):

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

2.IntendedLearningOutcomes(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.

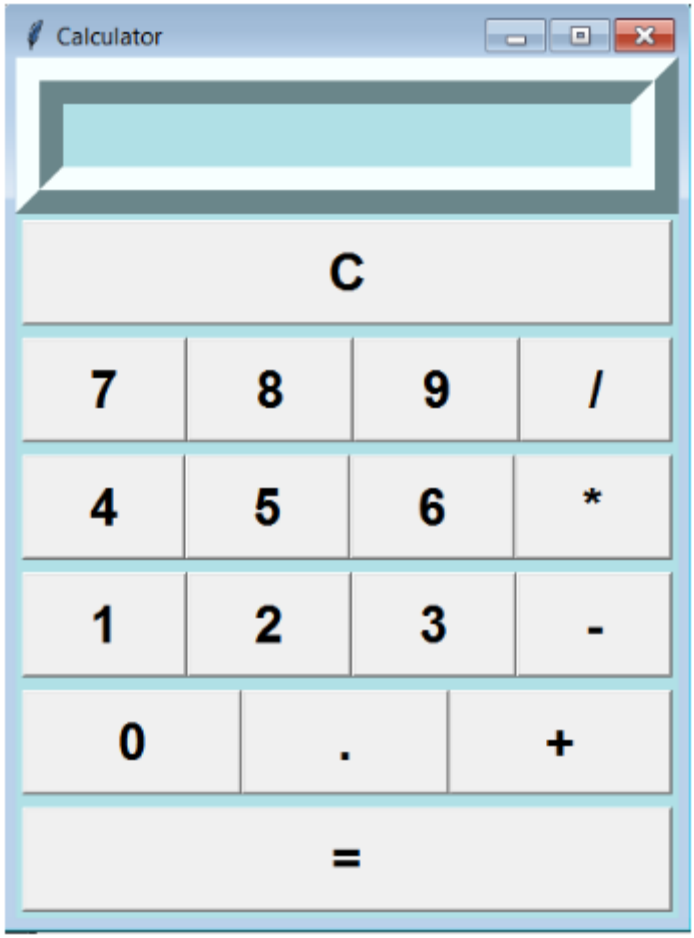
4.MaterialsandEquipment:

Desktop Computer with Pycharm
Windows Operating System

5. Procedure:

General Instruction:

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



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

6.SupplementaryActivity:

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()

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?
   We can use .grid(row, column) and grid_columnconfigure(). We can also use padx and pady, ipadx and ipady, and stickty

2. Why do widgets sometimes disappear when using grid() in PyCharm, and how can you fix it?
   It disappeared if we haven't configured it. To fix it we must ensure each row and column is configured with non-zero weight. root.grid_columnconfigure(index, weight=1)

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 box help with the user experience by providing feedback, confirmation, and alerts. To align widgets across multiple frames using grid() is to place frame and configure it with, just like the main window.

7. Conclusion:

Using tkinter grid() manager is one of the effective key to create a will structured GUI applications. Configure used rows, column, etc. Ensuring widgets to align to window size prevent widgets to disappear in the main window. Message box such as showinfo enhances the user experience by providing feedback, confirmations, and alerts, making it more interactive.

8.AssessmentRubric: