Laboratory Activity No. 11	
The Grid Manager	
Course Code: CPE103	Program: BSCPE
Course Title: Object-Oriented Programming	Date Performed: 03 – 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 (win
fields, checkboxes, images, icons, etc..) such as the Desktop GUI of Windows OS by using a mouse and keybo
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.

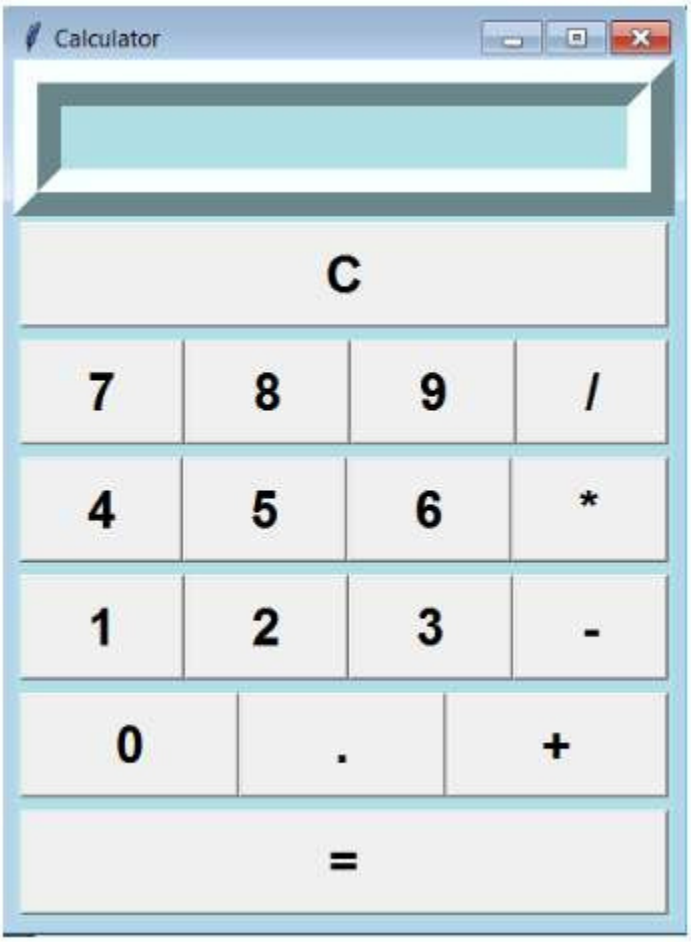
4. Materials and Equipment:

Desktop Computer with Pycharm
Windows Operating System

5. Procedure:

General Instruction:

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



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()

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

PLEASE REFER TO THIS LINK: https://github.com/Yuan-Hessed-Vasig/CPE-103-00P-1-A/blob/main/Lab%20Activity%2011/calculatorgrid.py

Questions

1. How do you configure rows and columns in PyCharm when using Tkinter's grid() manager?
   You configure rows and columns using grid(row=x, column=y) and can adjust spacing with rowconfigure() and columnconfigure().

2. Why do widgets sometimes disappear when using grid() in PyCharm, and how can you fix it?
   Widgets disappear if they are placed in the same cell or the window size is too small, fixing it involves proper row/column settings and using .grid_propagate(0) or resizing the window.

3. How can message boxes be used to provide a better User Experience or how can message boxes be used a GUI Application more user-friendly? How can you align widgets across multiple frames using grid() in PyCharm?
   Message boxes give users feedback, alerts, and confirmations, making the interface more interactive and informative. Widgets can be aligned by placing them in separate frames, then using grid() for each frame and managing row/column weights consistently.

7. Conclusion:

This activity helped me understand how to arrange widgets effectively and enhance GUI layout and user experience using the grid() geometry manager in Tkinter.

8. Assessment Rubric: