

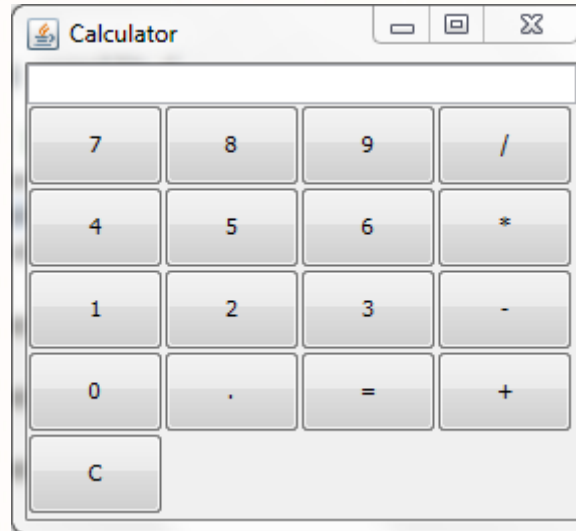
Introduction to Java™

Module 11: Inner classes and GUIs

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Task 1: Calculator

- Create the following GUI. You have to provide all the functionality.



- Hints: Use loops to initialize buttons.
- Note: Follow the **TODO** comments inside the template code.

Task 2: Tic-Tac-Toe Solo Game

- In this exercise, you will explore the two players Tic-Tac-Toe solution's structure and the logic used for the game flow. Throughout this lab you will create the Tic-Tac-Toe game in two player mode.

- E.g.

```
[O] [X] [ ]      [X] [ ] [ ]      [ ] [ ] [ ]
[X] [ ] [ ]      [O] [ ] [ ]      [ ] [X] [ ]
[X] [O] [ ]      [O] [X] [X]      [ ] [ ] [ ]
```

- Hints: Use one loop for columns and one loop for rows to check if a player is winning.
- Note: Follow the **TODO** comments inside the template code.

Useful code

- Add action listener to the button (click event)

```
button.addActionListener(new ActionListener() {  
    @Override  
    public void actionPerformed(ActionEvent arg0) { }  
});
```

- Show dialog

```
JOptionPane.showMessageDialog(jPanel, "Message", "title", JOptionPane.ERROR_MESSAGE);
```

- Create and Initialize Object Array

```
private Object[][] object = new Object[3][3];  
  
for (int i = 0; i < 3; i++)  
    for (int j = 0; j < 3; j++)  
        p.add(object[i][j] = new Object(i, j));
```