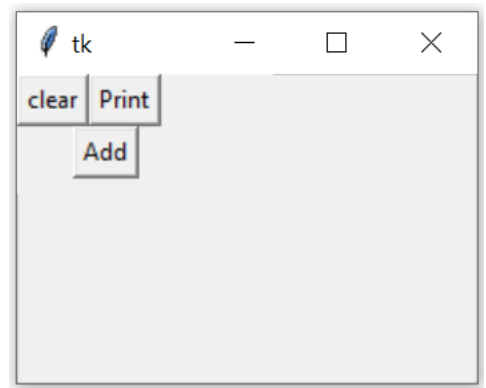


1. Consider the following code and then answer the given questions:

```
from Tkinter import *  
  
class myWindow():  
  
    def __init__(self, wnd):  
        self.Add = Button(wnd, text="Add", command = self.update)  
        self.Clear = Button(wnd, text="clear", command=self.cancel)  
        self.Show = Button(wnd, text="Print", command=self.show)  
        self.Add.grid(row=1, column=1, columnspan=2)  
        self.Clear.grid(row=0, column=0, columnspan=2)  
        self.Show.grid(row=0, column=2, columnspan=1)  
        self.count = 5
```

- a. Add code to the myWindow class, so that when the Add button is pressed, the value of variable count increments by 1 and when the Clear button is pressed the value of the variable count becomes 0. (3 pts)

- b. Add code to the code given, so that when the code executes, the following windows is displayed. There is nothing tricky here, just make sure, you are able to show the interface created in the myWindow class. (2 pts)



2. In the code given below, assume that swap function is defined and it swaps the values at the two indices of the list (as we did in class). The findmin function, finds the index of the minimum value in a list starting from index j and ending at index i but not including index i.

- a. What would be the output of the following code. (3 points)

```
def mysterySort(a):
    i = len(a)//2
    for j in range(i-1):
        k = findmin(a,j,i)
        swap(a,k,j)
        print (a)
    i = len(a)
    for j in range(i//2,len(a)-1):
        k = findmin(a,j,i)
        swap(a,k,j)
        print (a)
mysterySort([3,4,2,1,6])
```

- b. If there are n elements in the list, how many times is the swap function called? Explain your answer. (2 points)