

PROBLEM STATEMENT -: Create A Countdown Timer Using Python. Features To Include

- Reset/ Stop
- Pause /Resume

CODE -

```
from tkinter import *
import tkinter.font as tkFont

class App(Frame):
    def __init__(self, master):
        super(App, self).__init__(master)
        self.grid()
        self.createWidgets()
        self.alarm_id = None
        self._paused = False
        self._starttime = 0

    def createWidgets(self):
        fonttxt = tkFont.Font(family="Arial", size=12, weight="bold",
                               slant="italic")

        self.label = Label(self, text="Enter the time in seconds for the timer :
", font=fonttxt)
        self.label.grid(row=0, column=0)

        self.minute = StringVar()
        self.minute.set("00")
        self.minuteEntry = Entry(self, text=self.minute, font=fonttxt)
        self.minuteEntry.grid(row=0, column=1)

        self.startButton = Button(self, text="Start",
                                   font=fonttxt, command=self.startTime)
        self.startButton.grid(row=1, column=0)

        self.stopButton = Button(self, text="Stop", font=fonttxt,
                                   command=self.stopTime)
        self.stopButton.grid(row=1, column=1)

        self.resetButton = Button(self, text="Reset", font=fonttxt,
                                   command=self.resetTime)
        self.resetButton.grid(row=1, column=2)

        self.label2 = Label(self, text="Timer Finished", font=fonttxt)
        self.label2.grid(row=3, column=0)
        self.label2.grid_remove()
        self.update()

    def startTime(self):
```

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        self._paused = False
        if self.alarm_id is None:
            self.countdown(int(self.minuteEntry.get()))

    def stopTime(self):
        if self.alarm_id is not None:
            self._paused = True

    def resetTime(self):
        if self.alarm_id is not None:
            self.master.after_cancel(self.alarm_id)
            self.alarm_id = None
            self._paused = False
            self.minute.set("00")
            self.label2.grid_remove()
            self._paused = True

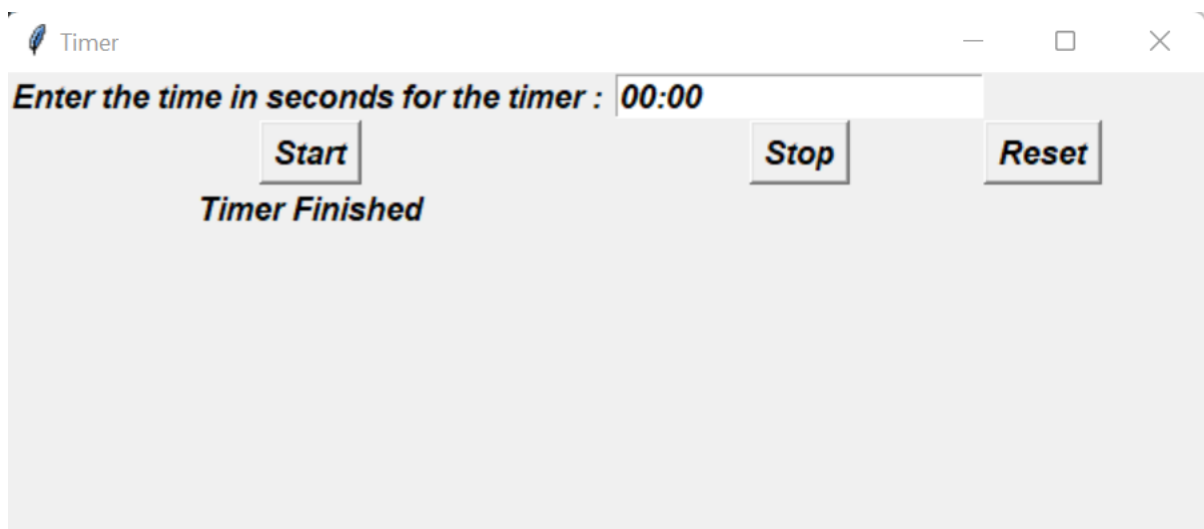
    def countdown(self, timeInSeconds, start=True):
        if start:
            self._starttime = timeInSeconds
            if self._paused:
                self.alarm_id = self.master.after(1000, self.countdown,
timeInSeconds, False)
            else:
                mins, secs = divmod(timeInSeconds, 60)
                timeformat = "{0:02d}:{1:02d}".format(mins, secs)
                app.minute.set(timeformat)
                print(self.minuteEntry.get())
                if(self.minuteEntry.get()=="00:00"):
                    self.label2.grid()
                    return
                self.alarm_id = self.master.after(1000, self.countdown,
timeInSeconds-1, False)

if __name__ == '__main__':
    win = Tk()
    win.title("Timer")
    win.geometry("600x400")
    app = App(win)
    win.mainloop()

```



After Timer Finishes It shows the following message



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