# DS-MINOR-MAR.

## PYTHON MINOR PROJECT

**CREATE A COUNTDOWN TIMER USING PYTHON**

**FEATUERS TO INCLUDE**

**RESET/STOP**

**PAUSE/RESUME**

```
# Python program to illustrate a stop watch
# using Tkinter
# importing the required libraries
import tkinter as Tkinter
from datetime import datetime

counter = 66600
running = False


def counter_label(label):
    def count():
        if running:
            global counter

            # To manage the initial delay.
            if counter == 66600:
                display = "Starting..."
            else:
                tt = datetime.fromtimestamp(counter)
                string = tt.strftime("%H:%M:%S")
                display = string
```

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            label["text"] = display  # Or label.config(text=display)

            # label.after(arg1, arg2) delays by
            # first argument given in milliseconds
            # and then calls the function given as second argument.
            # Generally like here we need to call the
            # function in which it is present repeatedly.
            # Delays by 1000ms=1 seconds and call count again.
            label.after(1000, count)
            counter += 1

    # Triggering the start of the counter.
    count()


# start function of the stopwatch
def Start(label):
    global running
    running = True
    counter_label(label)
    start["state"] = "disabled"
    stop["state"] = "normal"
    reset["state"] = "normal"


# Stop function of the stopwatch
def Stop():
    global running
    start["state"] = "normal"
    stop["state"] = "disabled"
```

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    reset["state"] = "normal"
    running = False


# Reset function of the stopwatch
def Reset(label):
    global counter
    counter = 66600

    # If rest is pressed after pressing stop.
    if running == False:
        reset["state"] = "disabled"
        label["text"] = "Welcome!"

    # If reset is pressed while the stopwatch is running.
    else:
        label["text"] = "Starting..."


root = Tkinter.Tk()
root.title("Stopwatch")

# Fixing the window size.
root.minsize(width=250, height=70)
label = Tkinter.Label(root, text="Welcome!", fg="black", font="Verdana 30 bold")
label.pack()
f = Tkinter.Frame(root)
start = Tkinter.Button(f, text="Start", width=6, command=lambda: Start(label))
stop = Tkinter.Button(f, text="Stop", width=6, state="disabled", command=Stop)
reset = Tkinter.Button(
    f, text="Reset", width=6, state="disabled", command=lambda: Reset(label)
```

```
)
f.pack(anchor="center", pady=5)
start.pack(side="left")
stop.pack(side="left")
reset.pack(side="left")
root.mainloop()
```

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