A

MINI PROJECT

ON

COUNTDOWN TIMER

Submitted by:

TALABATTULA VISHNU VARDHAN

Data Science March_2022-Batch-Teachnook

E-mail: vishnuvardhan2510@gmail.com

Submitted to:

TEACHNOOK

DS-MINOR-MAR

E-mail: event@teachnook.com

Sl. No:	CONTENTS
1.	INTRODUCTION
2.	SYNOPSIS
3.	SOURCE CODE
4.	EXPECTED OUTPUT
5.	FUTURE SCOPE OF THE PROJECT

INTRODUCTION:

A Countdown Timer can be defined as a virtual clock that counts down from a certain date or number to indicate the end or beginning of an event or an offer.

A Countdown Timer is the counting of numbers in the reverse order before something happens, espescially before a spacecraft is launched.

SYNOPSIS:

1. ### Title of the Project:
   Create a Countdown Timer using python
   Features to include pause/resume, reset/stop

2. ### Objective of the Project:
   The main purpose of a Countdown Timer is to create a sense of urgency and give the feeling that time is running out. In addition to this, businesses also use countdown timers to count down to when a special discount or offer will become avaliable. It can be used to generate curiosity and keep people interested and coming back.

3. ### Language and Software tool used:
   Front End : Python
   Operating system : Windows 10

4. ### Module Description:
   tkinter module : Tkinter is a python package which comes with many functions and methods that can be used to create an application. In order to create a tkinter application, we generally create an instance of tkinter frame, i.e., Tk() helps to display the root window and manages all the other components of the tkinter application.
   Frame : It acts as a container to hold the widgets. It is used for grouping and organising the widgets.
   Button : To add a button in your application, this widget is used.

Label : It refers to the display box where you can put any text or image which can be updated any time as per the code.
Entry : It is used to input the single line text entry from the user. For multi line text input, Text widget is used.

datetime module : Python datetime module supplies classes to work with date and time. These classes provide a number of functions to deal with dates, times and time intervals. date and datetime are an objects in python, so when you manipulate them, you are actually manipulating objects and not string or timestamps.
datetime : It is a combination of date and time along with the attributes year, month, day, hour, minute, second, microsecond and tzinfo.
timedelta : A duration expressing the difference between two date, time or datetime instances to microsecond resolution.

SOURCE CODE:

```
#Importing the module
import tkinter as tk
import datetime

#Creating a countdown class
class Countdown(tk.Frame):
    def __init__(self,master):
        super().__init__(master)
        self.create_widgets()
        self.show_widgets()
        self.seconds_left=0
        self._timer_on=False

    def show_widgets(self):
        self.label.pack()
        self.entry.pack()
        self.start.pack()
        self.stop.pack()
        self.reset.pack()

    def create_widgets(self):
        self.label=tk.Label(self,text="Enter the time in seconds.")
        self.entry=tk.Entry(self,justify="center")
```

```
        self.entry.focus_set()
        self.reset=tk.Button(self,text="Reset Timer",
                             command=self.reset_button)
        self.stop=tk.Button(self,text="Stop Timer",
                            command=self.stop_button)
        self.start=tk.Button(self,text="Start Timer",
                             command=self.start_button)

    def countdown(self):
        self.label["text"]=self.convert_seconds_left_to_time()

        if self.seconds_left:
            self.seconds_left-=1
            self._timer_on=self.after(1000,self.countdown)
        else:
            self._timer_on=False

    def reset_button(self):
        self.seconds_left=0
        self.stop_timer()
        self._timer_on=False
        self.label["text"]="Enter the time in seconds."
        self.start.forget()
        self.stop.forget()
```

```
        self.reset.forget()
        self.start.pack()
        self.stop.pack()
        self.reset.pack()

    def stop_button(self):
        self.seconds_left=int(self.entry.get())
        self.stop_timer()

    def start_button(self):
        self.seconds_left=int(self.entry.get())
        self.stop_timer()
        self.countdown()
        self.start.forget()
        self.stop.forget()
        self.reset.forget()
        self.start.pack()
        self.stop.pack()
        self.reset.pack()

    def stop_timer(self):
        if self._timer_on:
            self.after_cancel(self._timer_on)
            self._timer_on=False
```

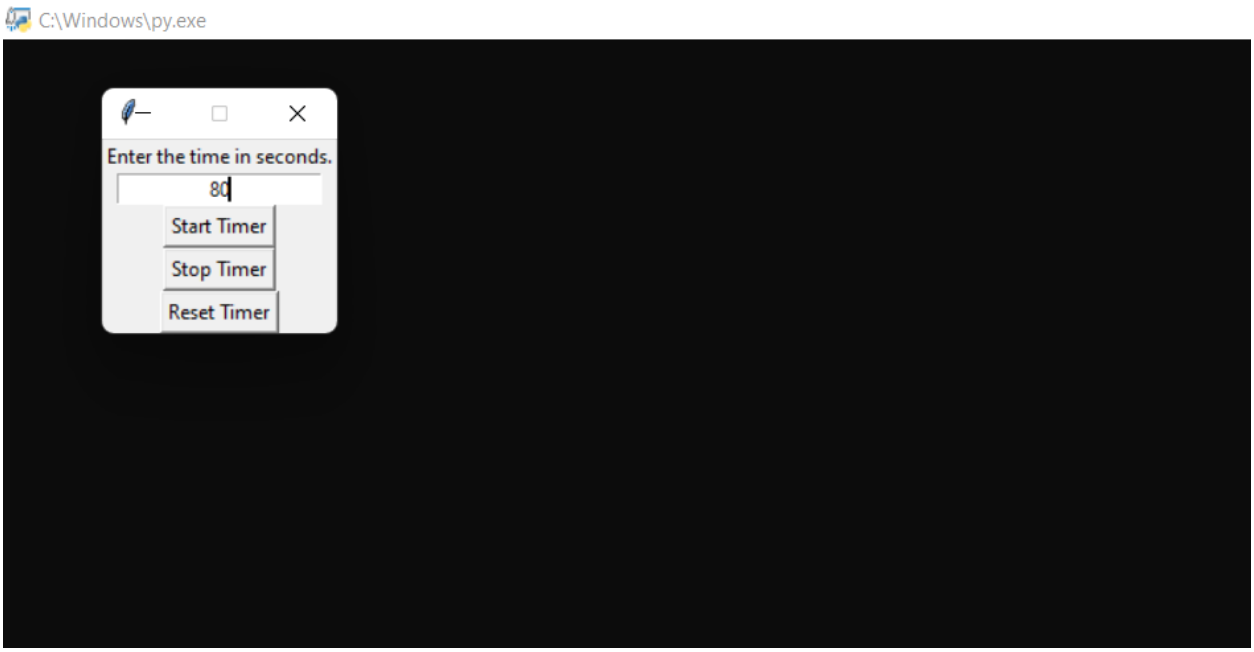
```
    def convert_seconds_left_to_time(self):
        return datetime.timedelta(seconds=self.seconds_left)

#Main Loop
if __name__=="__main__":
    root=tk.Tk()
    root.resizable(False,False)

    countdown=Countdown(root)
    countdown.pack()

    root.mainloop()
```

EXPECTED OUTPUT:

Save the above program with <filename>.py extension and then Run the program.

When we Run the program, it will display a window of countdown timer as shown in the picture below:

Enter the time in seconds format in the Text box as shown in the picture below:



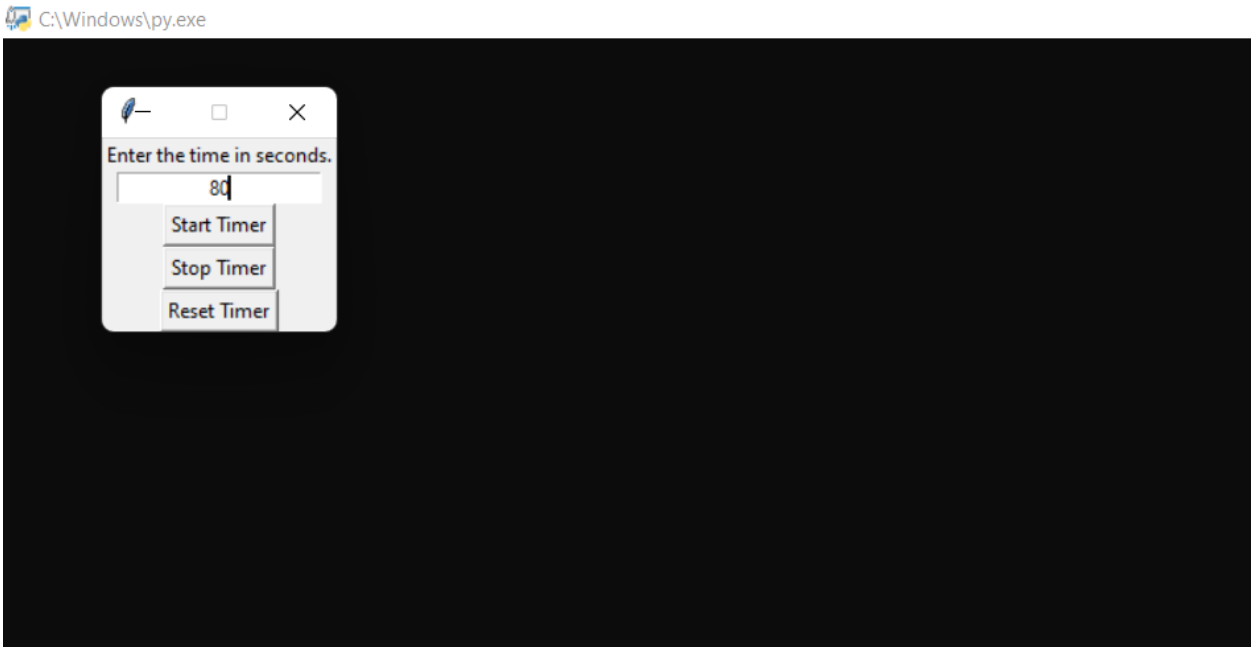
When we enter 80 in the text box, it considers as 1 minute 20 seconds (0:01:20)

When we click on Start Timer, then the timer starts to countdown

When we click on the Stop Timer, then the timer stops to countdown until we resume it.

In the above picture, the timer stops at 0:01:06, the timer will stops remain until we resume it.

To reset the timer, then click on the Reset Timer



Now, enter another time in the Text box for the new timer.

FUTURE SCOPE OF THE PROJECT:

According to a survey conducted by Whichtestwon, adding a countdown timer, on the average, increased a business revenue by as much as 9%. The countdown did a simple job, it highlighted the time left for next-day delivery.
It might not sound like a big increase to some people but if you calculate the number of people who visit your site, you will realize what a major difference nine percent can make to your profit.
A timer does a simple job – create a sense of urgency. This is very important because urgency related to several well-established psychology principles: fear of missing out and scarcity.

Many websites use scarcity in one form or another. It's one of Cialdini's six principles and can be a great starting point for marketers on how to attract buyers.

You can use a timer to highlight a special product or service. This can be very useful when it comes to new product launches.

A countdown timer can help your site, but you must know when and how to use it.