LAB 8

Software Development and Testing

Group Members:
CS-18118 Misha Akram
CS-18123 Iqra Irfan
CS-18136 Mujtaba Khan
CS-18141 Firdous Riaz

Q1: Using get pattern for both Lights and Cameras.

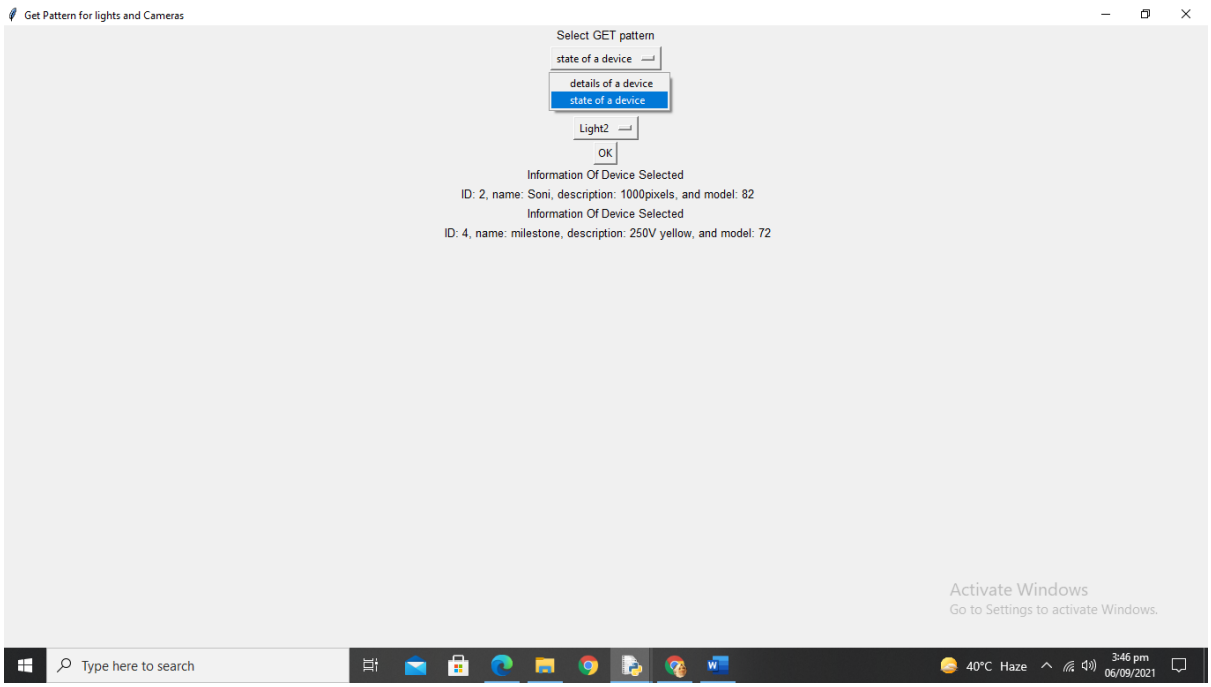
Code: -

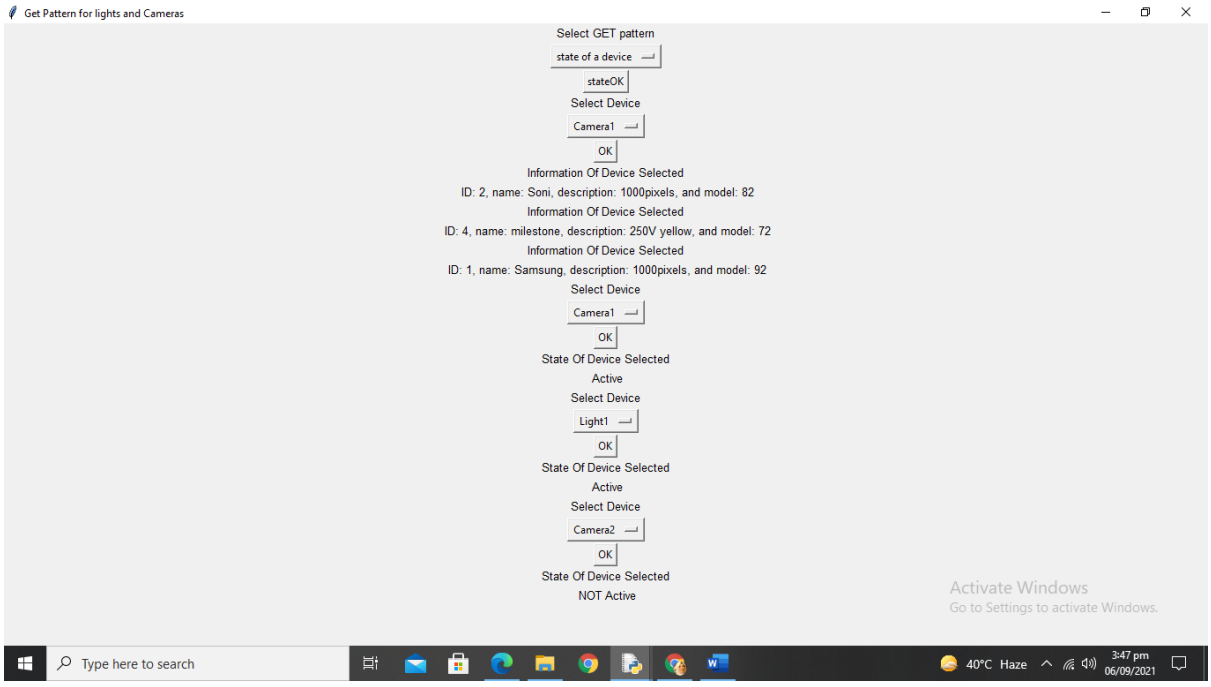
```
from tkinter import *


OPTIONS = ["Camera1","Camera2","Light1","Light2"]
GETPattern = ["details of a device","state of a device"]
window = Tk()
window.title("Get Pattern for lights and Cameras")
label1 = Label(window, text="Select GET pattern",width=200,font=("bold", 10))
label1.pack()
var = StringVar(window)
var.set(GETPattern[0]) # default value
x = OptionMenu(window, var, *GETPattern)
x.pack()



def go():
    label2 = Label(window, text="Select Device",width=200,font=("bold", 10))
    label2.pack()
    variable = StringVar(window)
    variable.set(OPTIONS[0]) # default value
```

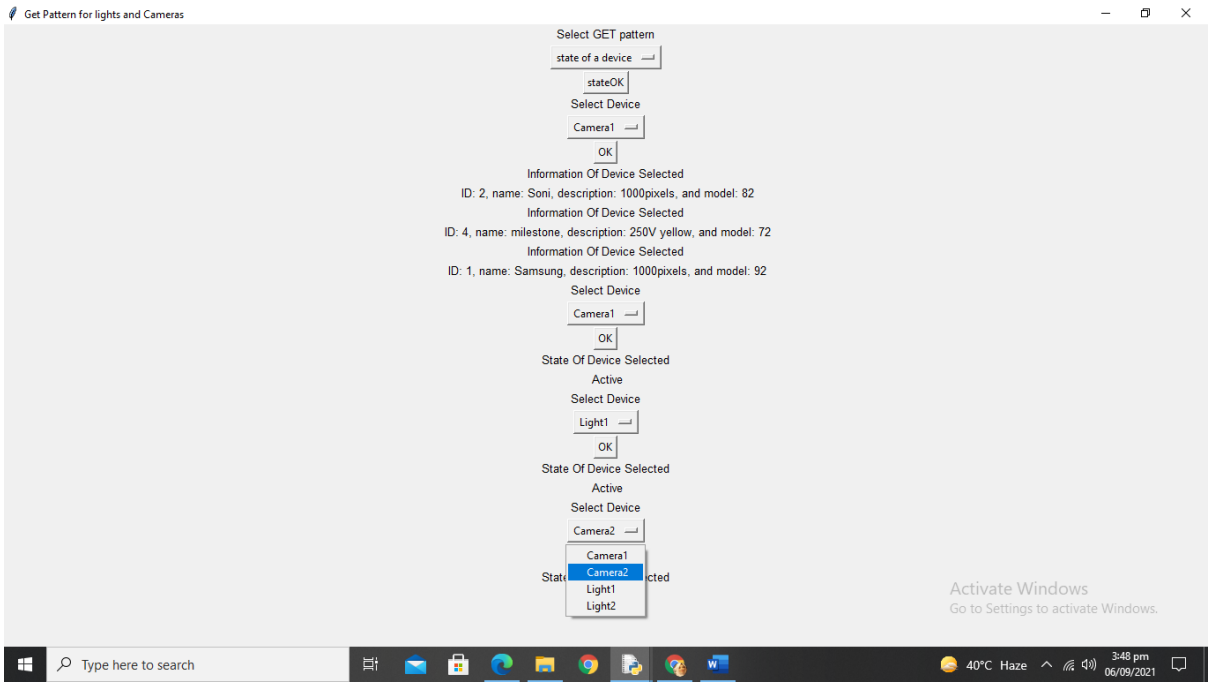
```
w = OptionMenu(window, variable, *OPTIONS)
w.pack()
a = var.get()
if  a == "details of a device":
   def ok():
      print ("value is:" + variable.get())
      label = Label(window, text="Information Of Device Selected",width=200,font=("bold", 10))
      label.pack()
      value = variable.get()
      if value == "Camera1":
         i = " ID: 1, name: Samsung, description: 1000pixels, and model: 92"
         label_1 = Label(window, text=i,width=200,font=("bold", 10))
         label_1.pack() #lace(x=90,y=90)
      elif value == "Camera2":
         i = " ID: 2, name: Soni, description: 1000pixels, and model: 82"
         label_2 = Label(window, text=i,width=200,font=("bold", 10))
         label_2.pack() #lace(x=90,y=130)
      elif value == "Light1":
         i = " ID: 3, name: Thorax , description: 250V, and model: 23"
         label_3 = Label(window, text=i,width=200,font=("bold", 10))
         label_3.pack()  #lace(x=90,y=180)
      elif value == "Light2":
         i = " ID: 4, name: milestone, description: 250V yellow, and model: 72"
         label_4 = Label(window, text=i,width=200,font=("bold", 10))
         label_4.pack()#lace(x=90,y=230)
elif a == "state of a device":
   def ok():
      #print ("value is:" + variable.get())
      label = Label(window, text="State Of Device Selected",width=200,font=("bold", 10))
      label.pack()#lace(x=90,y=53)
```

```
        value = variable.get()
        if value == "Camera1":
            i = " Active"
            label_1 = Label(window, text=i,width=200,font=("bold", 10))
            label_1.pack()#lace(x=90,y=90)
        elif value == "Camera2":
            i = " NOT Active"
            label_2 = Label(window, text=i,width=200,font=("bold", 10))
            label_2.pack()#lace(x=90,y=130)
        elif value == "Light1":
            i = " Active"
            label_3 = Label(window, text=i,width=200,font=("bold", 10))
            label_3.pack()#lace(x=90,y=180)
        elif value == "Light2":
            i = " NOT Active"
            label_4 = Label(window, text=i,width=200,font=("bold", 10))
            label_4.pack()#lace(x=90,y=230)
    button = Button(window, text="OK", command=ok)
    button.pack()
button1 = Button(window, text="stateOK", command=go)
button1.pack()

window.mainloop()
```

Output: -


Get Pattern for lights and Cameras
Select GET pattern
state of a device
details of a device
state of a device
Light2
OK
Information Of Device Selected
ID: 2, name: Soni, description: 1000pixels, and model: 82
Information Of Device Selected
ID: 4, name: milestone, description: 250V yellow, and model: 72
Activate Windows
Go to Settings to activate Windows.
Type here to search
40°C Haze
3:46 pm
06/09/2021


Get Pattern for lights and Cameras
Select GET pattern
state of a device
stateOK
Select Device
Camera1
OK
Information Of Device Selected
ID: 2, name: Soni, description: 1000pixels, and model: 82
Information Of Device Selected
ID: 4, name: milestone, description: 250V yellow, and model: 72
Information Of Device Selected
ID: 1, name: Samsung, description: 1000pixels, and model: 92
Select Device
Camera1
OK
State Of Device Selected
Active
Select Device
Light1
OK
State Of Device Selected
Active
Select Device
Camera2
OK
State Of Device Selected
NOT Active
Activate Windows
Go to Settings to activate Windows.
Type here to search
40°C Haze
3:47 pm
06/09/2021



Q2: Using set pattern for lights.

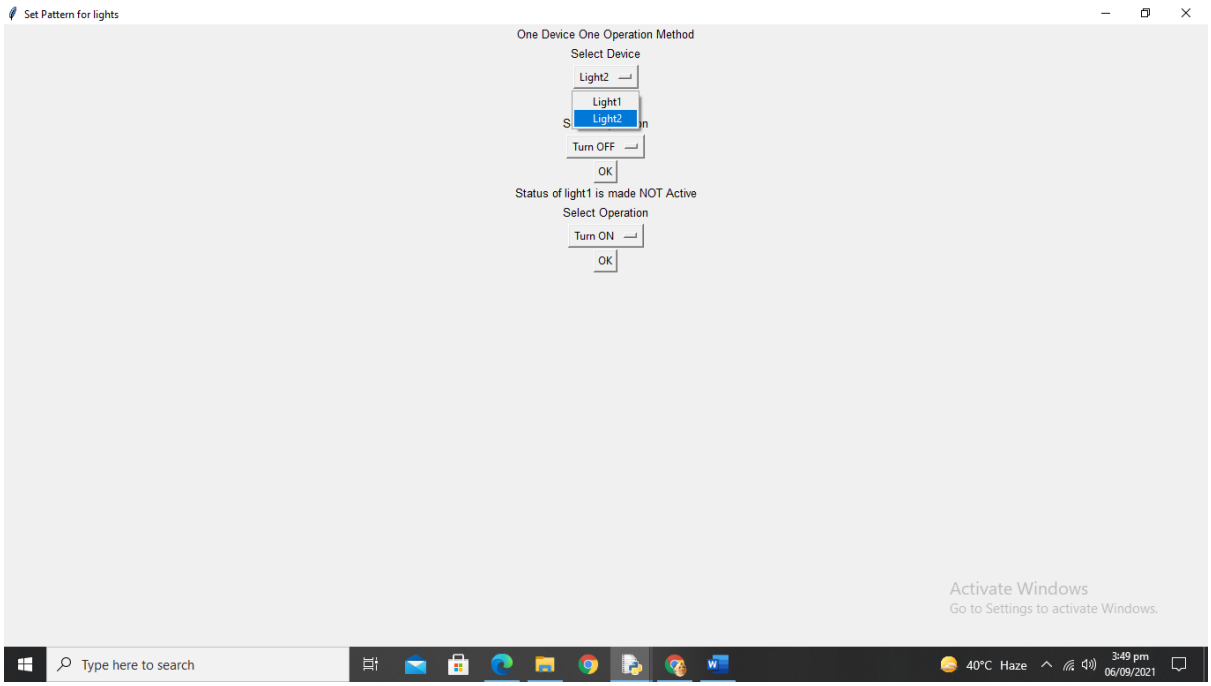
Code: -

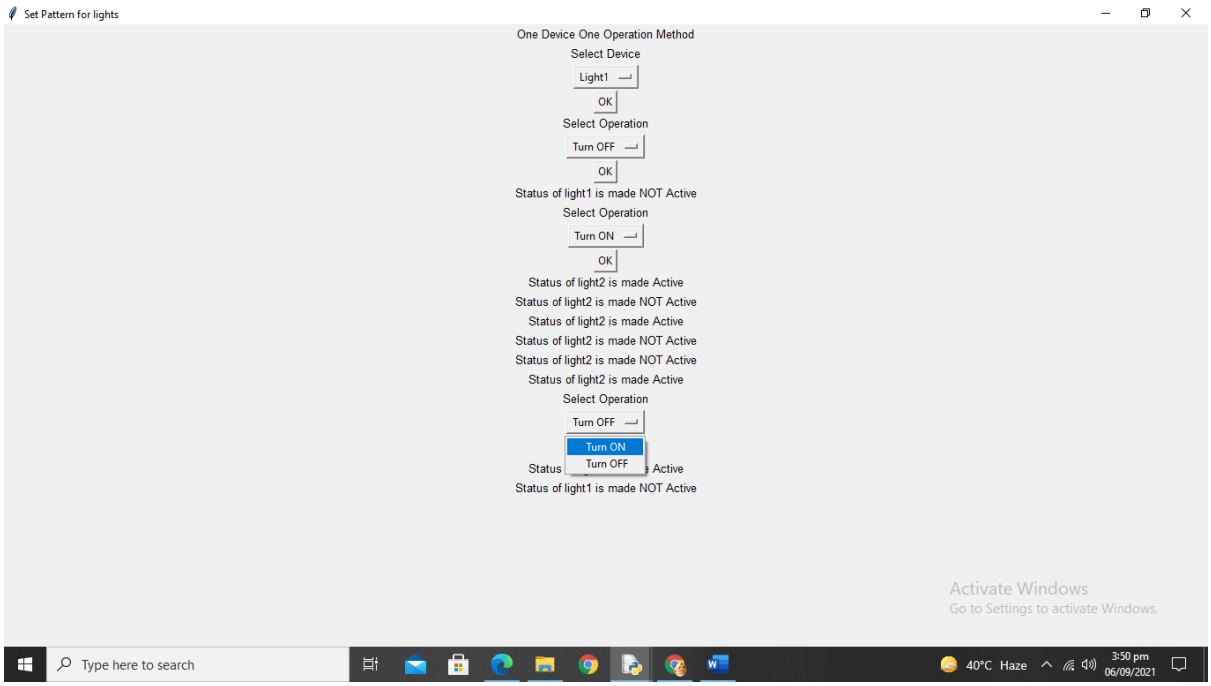
```
from tkinter import *


OPTIONS = ["Light1","Light2"]

OPTIONSS = ["Turn ON","Turn OFF"]

window = Tk()

window.title("Set Pattern for lights")

label1 = Label(window, text="One Device One Operation Method",width=200,font=("bold", 10))

label1.pack()

label1 = Label(window, text="Select Device",width=200,font=("bold", 10))

label1.pack()

var = StringVar(window)

var.set(OPTIONS[0]) # default value

x = OptionMenu(window, var, *OPTIONS)

x.pack()

def go():

    label2 = Label(window, text="Select Operation",width=200,font=("bold", 10))
```

```
    label2.pack()
    variable = StringVar(window)
    variable.set(OPTIONSS[0]) # default value

    w = OptionMenu(window, variable, *OPTIONSS)
    w.pack()
    a = var.get()

    def ok():
        if a == "Light1":
            value = variable.get()
            if value == "Turn ON":
                label2 = Label(window, text="Status of light1 is made Active",width=200,font=("bold", 10))
                label2.pack()
            elif value == "Turn OFF":
                label2 = Label(window, text="Status of light1 is made NOT Active",width=200,font=("bold",
10))
                label2.pack()
        elif a == "Light2":
            value = variable.get()
            if value == "Turn ON":
                label2 = Label(window, text="Status of light2 is made Active",width=200,font=("bold", 10))
                label2.pack()
            elif value == "Turn OFF":
                label2 = Label(window, text="Status of light2 is made NOT Active",width=200,font=("bold",
10))
                label2.pack()
    button = Button(window, text="OK", command=ok)
    button.pack()
button1 = Button(window, text="OK", command=go)
button1.pack()
```

window.mainloop()

Output: -





Q3: Using Event based pattern for Alarms in home automation system.

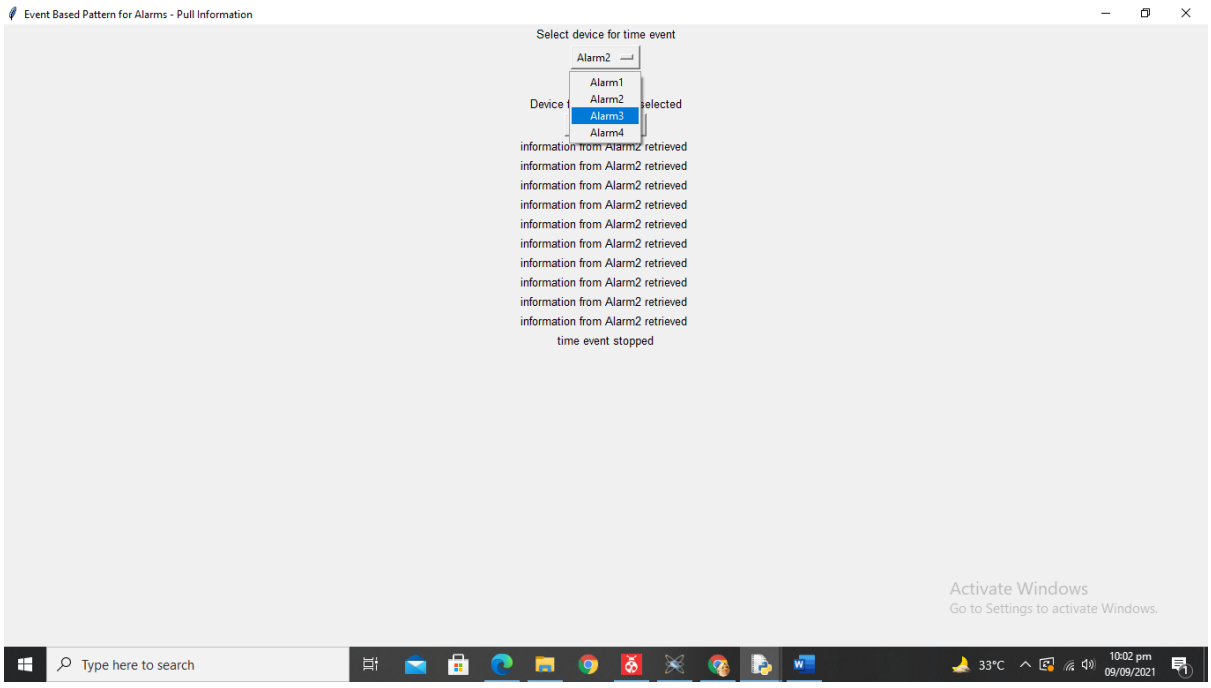
Code:

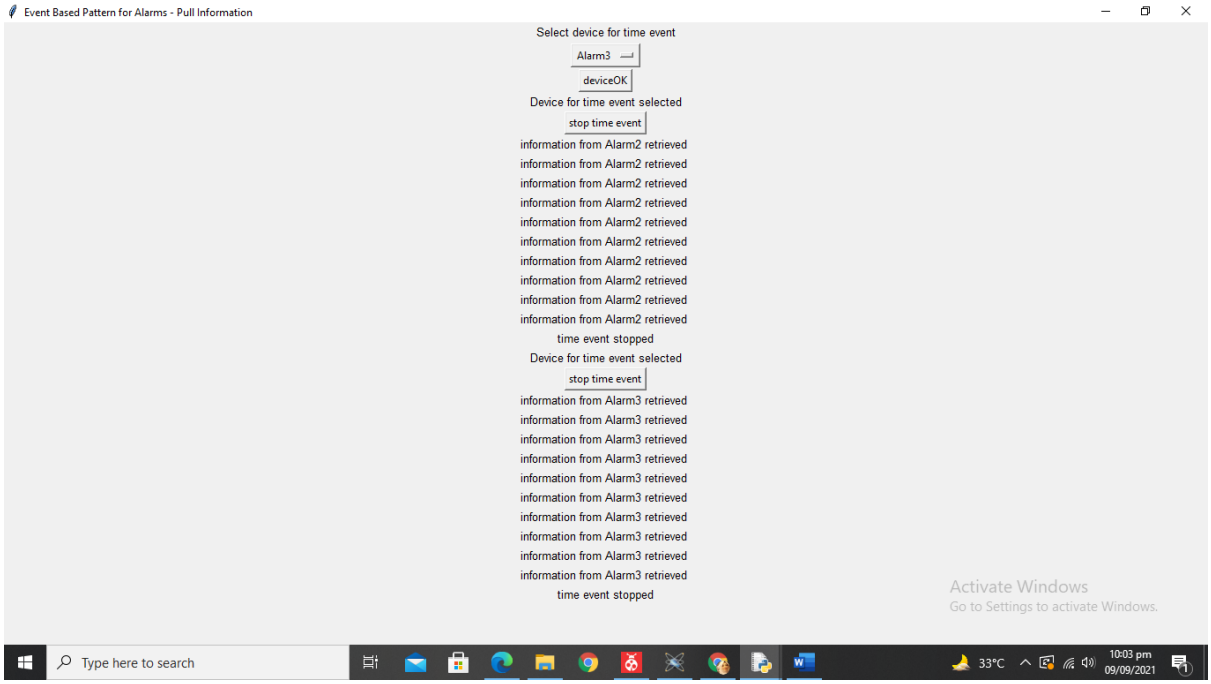
```
from tkinter import *
import time
OPTIONS = ["Alarm1","Alarm2","Alarm3","Alarm4"]
#print ("before")
#time.sleep(3)
#print ("after")
window = Tk()
window.title("Event Based Pattern for Alarms - Pull Information")
label1 = Label(window, text="Select device for time event",width=200,font=("bold", 10))
label1.pack()
var = StringVar(window)
var.set(OPTIONS[0]) # default value
x = OptionMenu(window, var, *OPTIONS)
x.pack()



def go():
   label2 = Label(window, text="Device for time event selected",width=200,font=("bold", 10))
   label2.pack()
   def ok():
      label2 = Label(window, text="time event stopped",width=200,font=("bold", 10))
      label2.pack()
   def ok2():
      print("waiting")
   a = var.get()
```

```
   if  a == "Alarm1":
      button = Button(window, text="stop time event", command=ok)
      button.pack()

      for i in range(0,10):
         label = Label(window, text="information from Alarm1 retrieved ",width=200,font=("bold",
10))
         label.pack()
         label.after(1000, ok2)
         #time.sleep(10)
         i = i-1

   elif a == "Alarm2":
      button = Button(window, text="stop time event", command=ok)
      button.pack()

      for i in range(0,10):
         label = Label(window, text="information from Alarm2 retrieved ",width=200,font=("bold",
10))
         label.pack()
         label.after(1000, ok2)
         #time.sleep(10)
         i = i-1
   elif a == "Alarm3":
      button = Button(window, text="stop time event", command=ok)
      button.pack()

      for i in range(0,10):
         label = Label(window, text="information from Alarm3 retrieved ",width=200,font=("bold",
10))
         label.pack()
         label.after(1000, ok2)
```

```
            #time.sleep(10)
            i = i-1
    elif a == "Alarm4":
        button = Button(window, text="stop time event", command=ok)
        button.pack()

        for i in range(0,10):
            label = Label(window, text="information from Alarm4 retrieved ",width=200,font=("bold",
10))
            label.pack()
            label.after(1000, ok2)
            #time.sleep(10)
            i = i-1
button1 = Button(window, text="deviceOK", command=go)
button1.pack()

window.mainloop()
```

Output:




Event Based Pattern for Alarms - Pull Information
Select device for time event
Alarm3
deviceOK
Device for time event selected
stop time event
information from Alarm2 retrieved
information from Alarm2 retrieved
information from Alarm2 retrieved
information from Alarm2 retrieved
information from Alarm2 retrieved
information from Alarm2 retrieved
information from Alarm2 retrieved
information from Alarm2 retrieved
information from Alarm2 retrieved
information from Alarm2 retrieved
time event stopped
Device for time event selected
stop time event
information from Alarm3 retrieved
information from Alarm3 retrieved
information from Alarm3 retrieved
information from Alarm3 retrieved
information from Alarm3 retrieved
information from Alarm3 retrieved
information from Alarm3 retrieved
information from Alarm3 retrieved
information from Alarm3 retrieved
information from Alarm3 retrieved
time event stopped
Activate Windows
Go to Settings to activate Windows.
Type here to search
33°C
10:03 pm
09/09/2021