جامعة حلب
كلية الهندسة الكهربائية والالكترونية
مخبر النظم الالكترونية المتقدمة

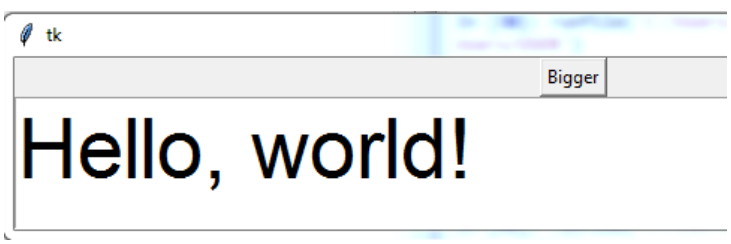
ملحق محاضرة بناء الواجهات الرسومية باستخدام python 3

أمثلة حول تغيير حجم الخط ونوعه:

١- تغيير حجم الخط :
عن طريق استدعاء مكتبة tkinter.font

مثال:

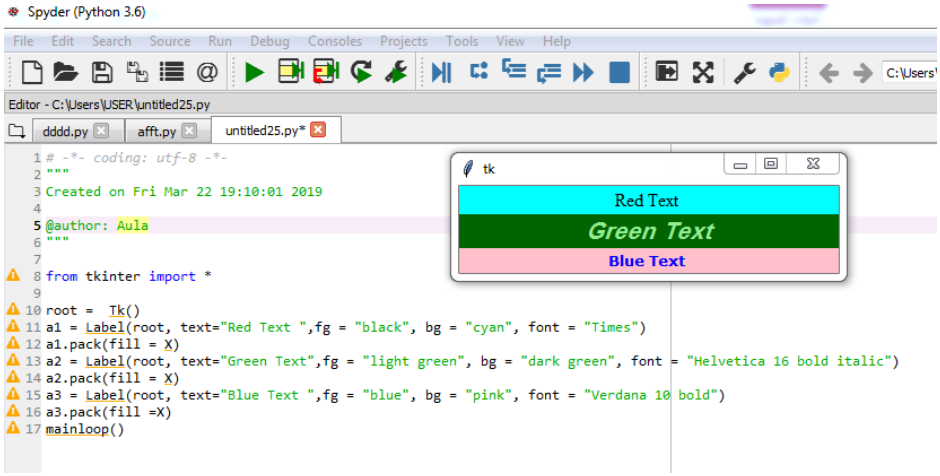
```
import tkinter as tk
import tkinter.font as tkFont
class Example(object):
    def __init__(self):
        root = tk.Tk()
        self.font = tkFont.Font(family="helvetica", size=18)
        button = tk.Button(root, text="Bigger", command=self.bigger)
        # create a frame for the text widget, and let it control the
        # size by turning geometry propagation off
        text_frame = tk.Frame(root, width=800, height=400)
        text_frame.pack_propagate(False)
        text = tk.Text(text_frame, width=1, height=1, font=self.font)
        text.pack(side="top", fill="both", expand=True)
        button.pack(side="top")
        text_frame.pack(side="top", fill="both", expand=True)
        text.insert("end", "Hello, world!")
    def start(self):
        tk.mainloop()
    def bigger(self):
        size = int(self.font.cget("size"))
        size += 2
        self.font.configure(size=size)
app = Example()
app.start()
```



٢- تغيير نوع وحجم الخط واللون ولون الخلفية:

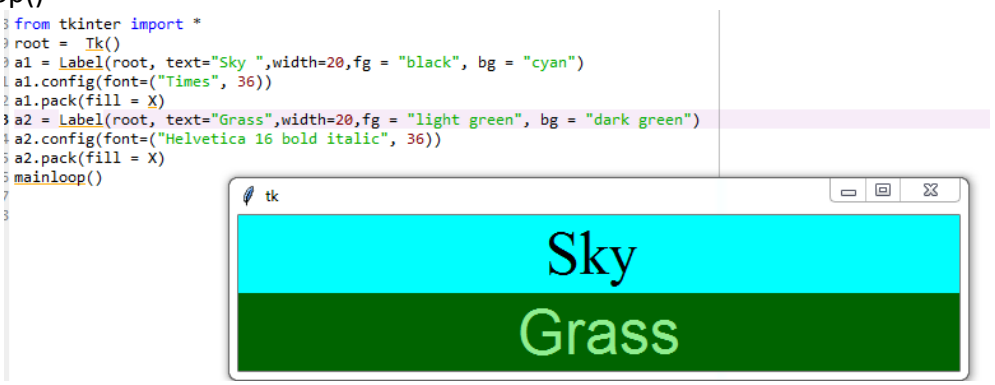
مثال ١

```
from tkinter import *
root =  Tk()
a1 = Label(root, text="Red Text ",fg = "black", bg = "cyan", font = "Times")
a1.pack(fill = X)
a2 = Label(root, text="Green Text",fg = "light green", bg = "dark green", font = "Helvetica
16 bold italic")
a2.pack(fill = X)
a3 = Label(root, text="Blue Text ",fg = "blue", bg = "pink", font = "Verdana 10 bold")
a3.pack(fill =X)
mainloop()
```



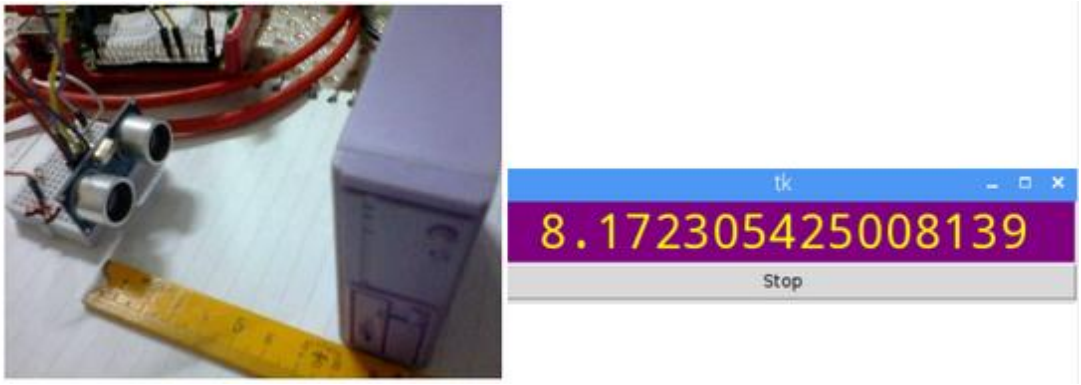
مثال ٢

```
from tkinter import *
root =  Tk()
a1 = Label(root, text="Sky ",width=20,fg = "black", bg = "cyan")
a1.config(font=("Times", 36))
a1.pack(fill = X)
a2 = Label(root, text="Grass",width=20,fg = "light green", bg = "dark green")
a2.config(font=("Helvetica 16 bold italic", 36))
a2.pack(fill = X)
mainloop()
```



تطبيق:

بناء واجهة لمقياس المسافة




```
import tkinter as tk

import RPi.GPIO as GPIO

import time

GPIO.setwarnings(False)

GPIO.setmode(GPIO.BOARD)

TRIGPIN = 11

ECHO = 15



print ("Distance Measurement In Progress")

GPIO.setup(TRIGPIN,GPIO.OUT)

GPIO.setup(ECHO, GPIO.IN, pull_up_down= GPIO.PUD_DOWN)
```

```
root = tk.Tk()

root.title("Calculating Distance")


GPIO.output(TRIGPIN, False)

print ("Delay for sensor stability")

time.sleep(2)

GPIO.output(TRIGPIN, True)

time.sleep(0.00001)

GPIO.output(TRIGPIN, False)

while GPIO.input(ECHO)==0:

pulse_start= 0

pulse_start= time.time()

while GPIO.input(ECHO)==1:

pulse_end= 0

pulse_end= time.time()

duration = pulse_end-pulse_start


distance = duration * 34029

distance = distance / 2

distance = round(distance, 2)
```

```
        print ("Distance:",distance,"cm")

        label = tk.Label(root,width=40, fg="yellow" , bg = "purple")

        label.config(font=("Courier", 36))

        label.config(text=str(distance))

        label.pack()

        button = tk.Button(root, text='Stop', width=50, command=root.destroy)

        button.pack()

        root.mainloop()
GPIO.cleanup()
```

قم بتعديل الكود وذلك لإضافة زر start لتفعيل عملية القياس.