TP10 (objectif : première approche de l'utilisation d'une bibliothèque graphique :Tkinter)

```
from tkinter import*

# variables globales
a=["a","b","c", "d","e","f","g","h",
    "i","j","k", "l","m","n","o","p",
    "q","r","s", "t","u","v","w","x",
    "y","z"]
A=["A", "B", "C", "D", "E", "F", "G", "H",
    "I", "J" ,"K", "L", "M","N","O", "P",
    "Q", "R", "S",  "T", "U", "V", "W", "X",
    "Y", "Z"]

# déclaration des fonctions
def minuscule(mot):
    nouveaumot=""
    for lettre in mot:
        if lettre in A:
            i=A.index(lettre)
            nouveaumot=nouveaumot+a[i]
        else:
            nouveaumot=nouveaumot+lettre
    return nouveaumot

def affichage(event):
    l.insert(END,minuscule(champ_entry.get())+"\n")

def effacer():
    l.delete("1.0",END)

def arret():
    f.destroy()

# programme principal
f = Tk()
f.title('Ma première fenêtre')
champ_label = Label (f, text = 'afficher en minuscule')
champ_label.pack (side = LEFT, padx = 20, pady = 20)
champ_entry = Entry(f, bg ='bisque', fg='maroon')
champ_entry.pack(side = LEFT, padx = 20, pady = 20)
champ_entry.bind("<Return>", affichage)
l=Text(f)
l.pack(side="top")
d=Button(f,text = "effacer",command=effacer )
d.pack()
c=Button(f,text = "arrët",command=arret )
c.pack()
f.mainloop()
```
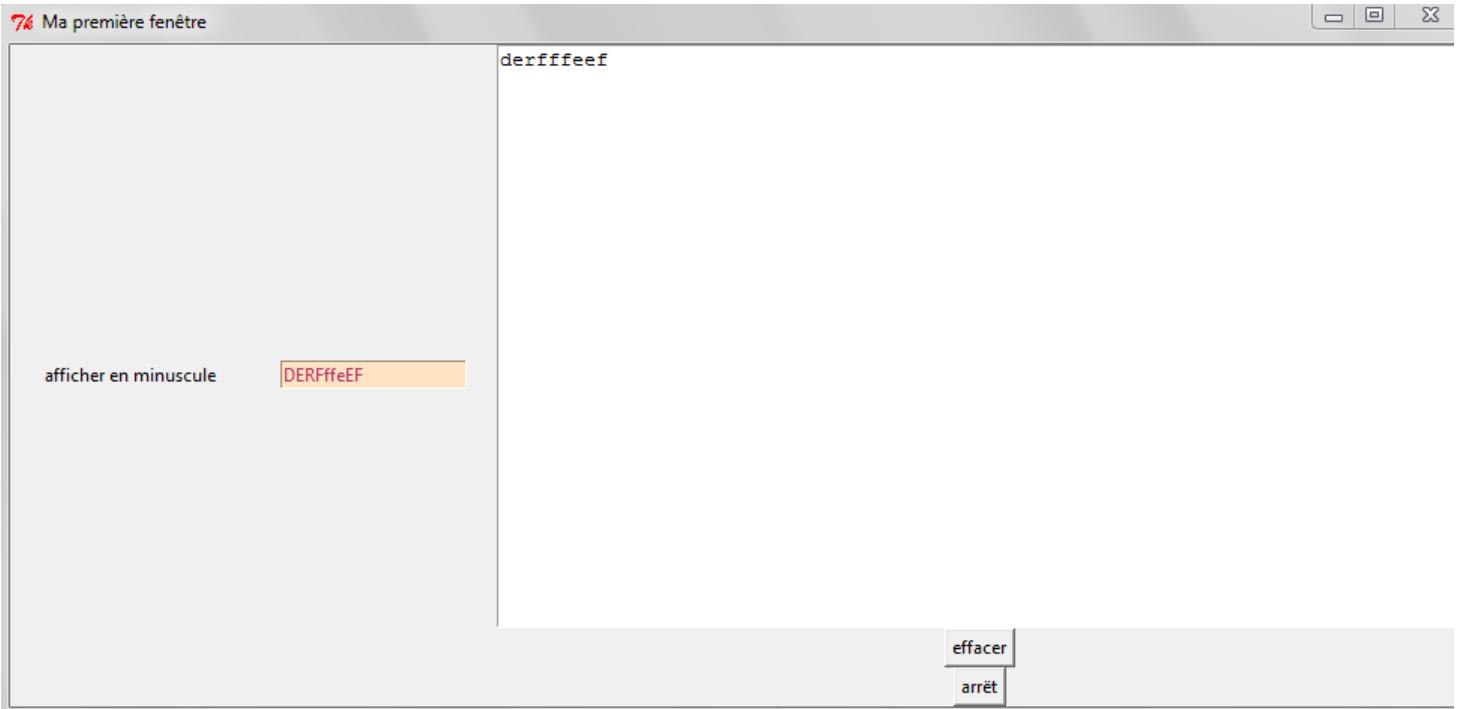
Ma première fenêtre

derfffeef

afficher en minuscule   DERFffeEF

effacer

arrët

```
1
1 1
1 2 1
1 3 3 1
1 4 6 4 1
1 5 10 10 5 1
1 6 15 20 15 6 1
1 7 21 35 35 21 7 1
```

Triangle de Pascal   8

effacer

arrêt