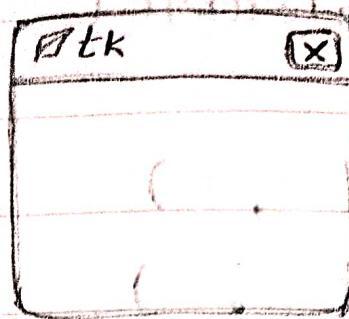


```
import tkinter
```

```
root = tkinter.Tk()
```

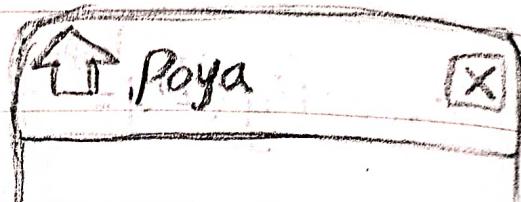
```
root.mainloop()
```

این دستور باید
در آخرین خط کد باشد.
این متد سبب شدن در راه رفتن نمود

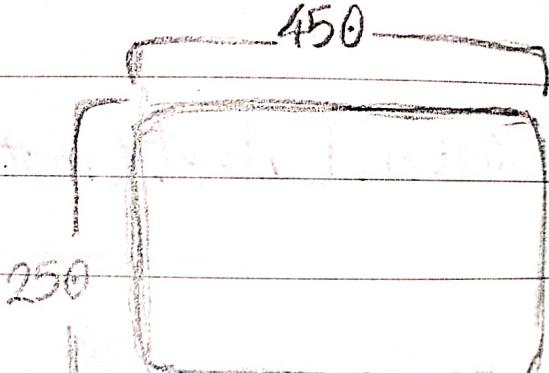


```
root.title("poya")
```

```
root.iconbitmap(r"E:\home.ico")
```

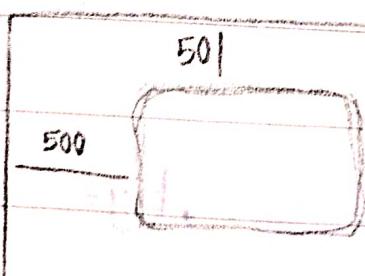


```
root.geometry("450x250")
```



```
root.geometry("450x250+500+50")
```

محل قرارگیری در دستابان



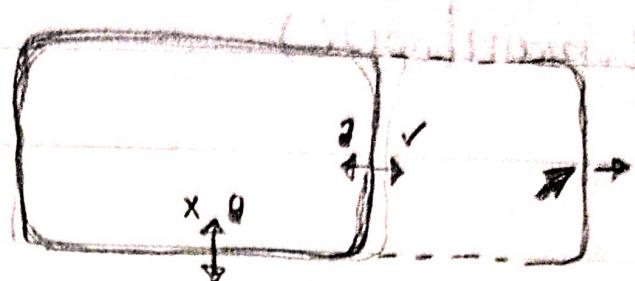
Jdo Jje

root.resizable(True, False)



.minsize(int, int)

.maxsize(int, int)



background

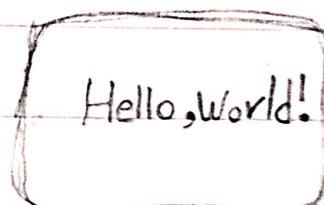
root.config(bg="green")



root = tkinter.Tk()

tkinter.Label(root, text="Hello, world!").pack()

master = root



Label = tkinter.Label(root, text="Poya", font=("AlexBrush", 20))
si

Label.pack()

size=20



Label = tkinter.Label(root, text="Poya", bg="green")

Label.pack()

o7B7T

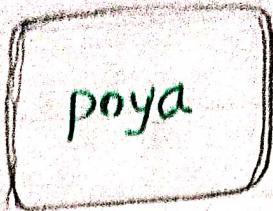
DATE:



`Label=tkinter.Label(root, text="Poya", fg="green")`

Foreground

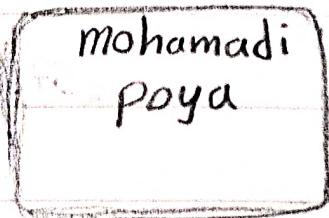
`Label.pack()`



`L1=tkinter.Label(master=root, text="poya")`

`L2=tkinter.Label(root, text="mohamadi")`

`L2.pack(); L1.pack()`



`top=tkinter.Toplevel()`

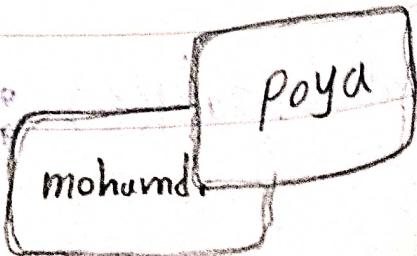


`L1=tkinter.Label(top, text="poya")`

`L2=tkinter.Label(root, text="mohamadi")`

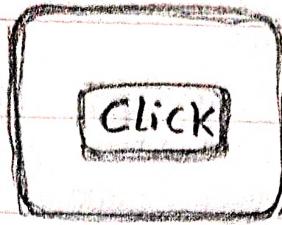
`L1.pack(); L2.pack()`

Output



bt=tkinter.Button(root, text="click")

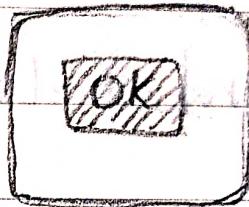
bt.pack()



bt=tkinter.Button(root, text="OK", state="disabled")

bt.pack()

↓
عالة



states = ["normal", "active", "disabled"]

bt=tkinter.Button(root, text="OK", activebackground
= "green", activeforeground="white")

bt.pack()

جامعة الملك عبد الله
تقنيات عالمية مبتكرة



import tkinter as tk

Label

Root=tk.Tk(); Label=tk.Label(root, text="Q")

Label.pack(); num=0

Q78T

```

def add_num():
    global num
    num += 1
    Label.config(text=f"{num}")

```

دالة add_num() تغير قيمة num
لذلك num ليس متغير محلي

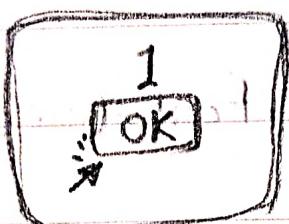
```

btn = tk.Button(root, text="OK", command=add_num)
btn.pack()

```

هذا

```
root.mainloop()
```



ما يدور في ذهنك
عندما تضغط على زر

```
Label = tk.Label(root, text="What's your name")
```

```
Label.pack()
```

```
entry = tk.Entry(root)
```

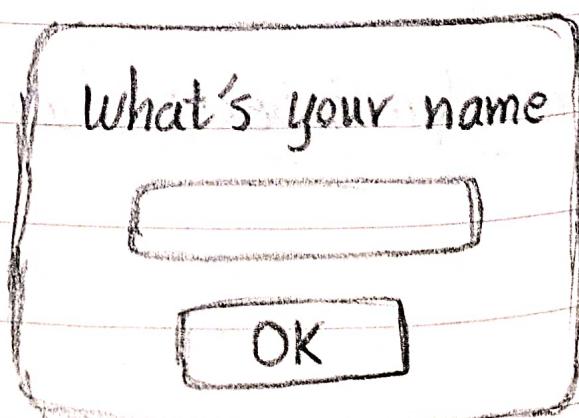
```
def get_ent():
```

```
    name = entry.get()
```

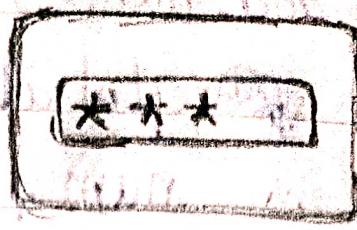
```
    Label.config(text=f"Hello {name}")
```

```
btn = tk.Button(root, text="OK", command=get_ent)
```

```
btn.pack()
```



```
entry=tk.Entry(show='*').pack()
```

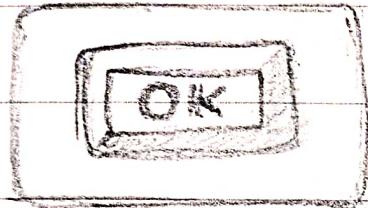


```
label.config(text="poya")
```

```
Label["text"]="poya"
```

```
tk.Button(text="OK", font=('arial', 10, 'bold'), bd=20).pack()
```

button(~~function~~)



[normal, bold, italic, roman]

```
#tkinter variable
```

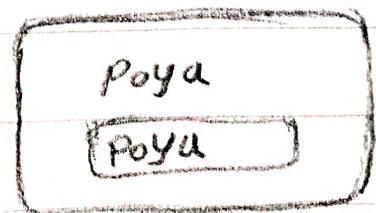
```
StringVar(value="Label")  
DoubleVar()  
BooleanVar()  
FloatVar()
```

```
string_var = tk.StringVar() # BooleanVar, FloatVar...
```

```
tk.Label(root, textvariable=string_var).pack()
```

```
tk.Entry(root, textvariable=string_var).pack()
```

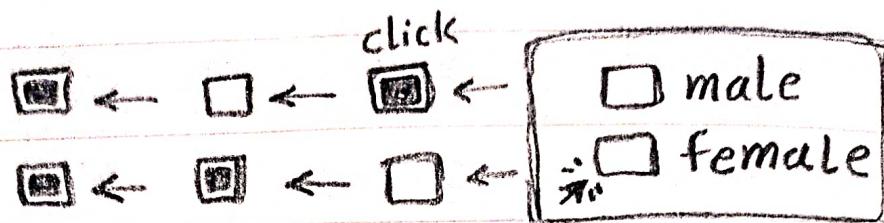
بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ
tkinter میں اس کا عمل
کیا گے؟



```
# StringVar.get() ; StringVar.set("text")ex
```

```
tk.Checkbutton(root, text="male").pack()
```

```
tk.Checkbutton(root, text="female").pack()
```



```
def check(): var = boolvar.get()
```

```
if var:
```

```
    Label["text"] = "you Are man"
```

```
else:
```

```
    Label["text"] = "you Are woman"
```

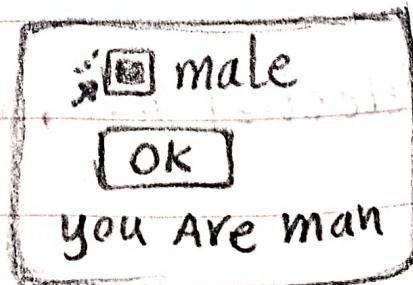
```
tk.Checkbutton(root, text="male", variable=boolvar)  
.pack()
```

```
boolvar = tk.BooleanVar()
```

```
btn = tk.Button(root, text="OK", command=check)  
btn.pack()
```

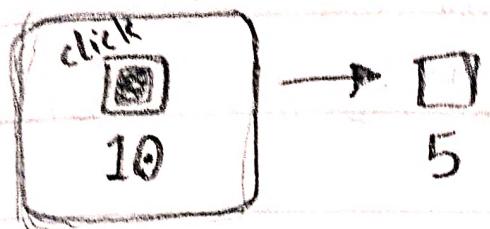
```
Label = tk.Label(root)
```

```
Label.pack()
```



IntVar = tk.IntVar()

tk.Checkbutton(root, variable=IntVar, onvalue=10, offvalue=5).pack()
tk.Label(root, textvariable=IntVar).pack()

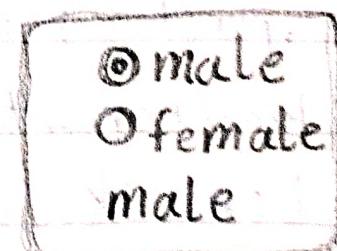
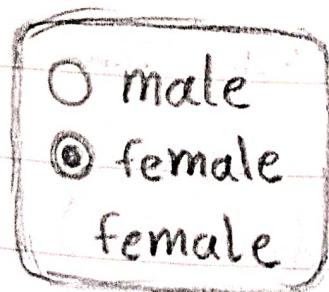


tk_var = tk.StringVar()

tk.Radiobutton(root, text="male", value="male", variable=tk_var).pack()

tk.Radiobutton(root, text="female", value="female", variable=tk_var).pack()

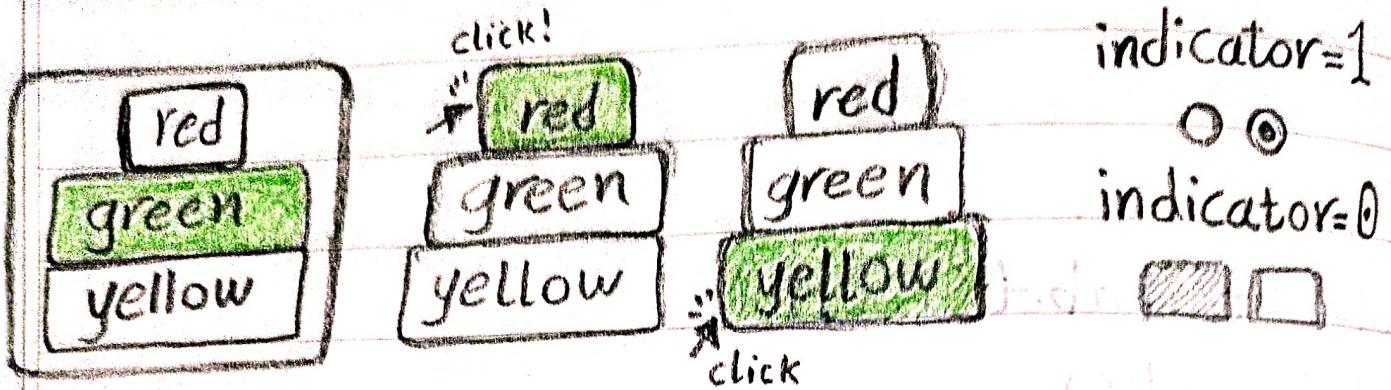
tk.Label(root, textvariable=tk_var).pack()



list_select = ["red", "green", "yellow"]

for t in list_select:

 tk.Radiobutton(root, text=t, value=t,
 indicator=0, selectcolor="green").pack()



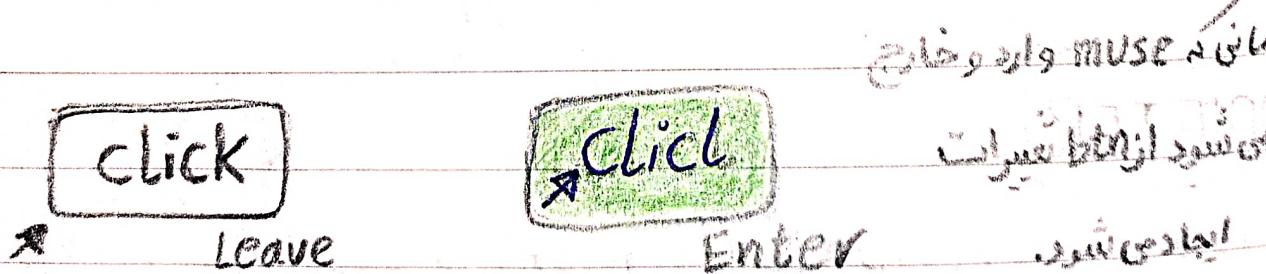
btn = tk.Button(root, text="click",); btn.pack()

btn.bind("<Enter>", lambda event: btn.config(bg="green"))

def leave(event):

 btn.config(bg="white")

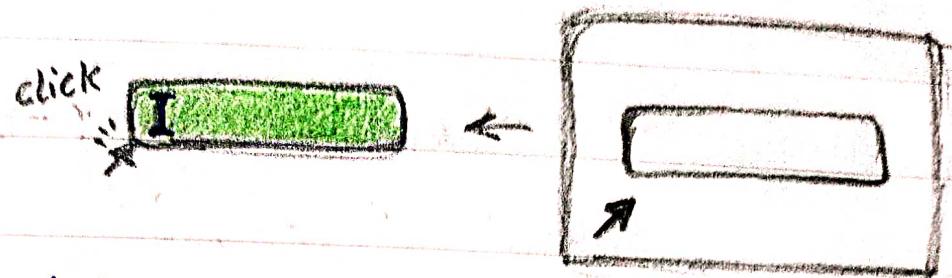
btn.bind("<Leave>", leave)



ent = tk.Entry(root); ent.pack()

ent.bind("<FocusIn>", lambda event: ent.config

```
(bg="green"))
ent.bind("<FocusOut>", lambda event: ent
    .config(bg="white"))
```



```
label = tk.Label(root)
```

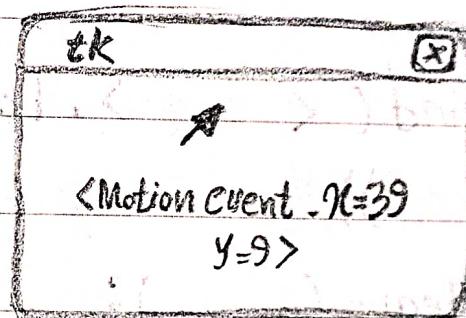
```
label.pack()
```

```
root.bind("<Motion>", lambda event: Label.config
    (text=event))
```

event.x event.y

موديفر، موس -> Motion

mouse Y, X



< MODIFIER - MODIFIER - TYPE - DETAIL >

MODIFIER = Control, Shift, Alt, ...

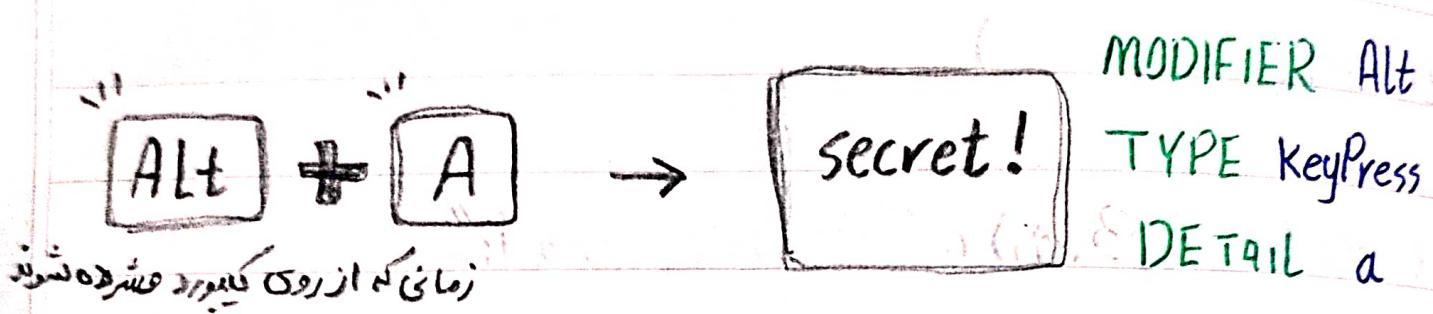
کسری کردن MODIFIER، بگان از کلک bind،
var.bind("<Control-Alt ...>")

TYPE = Enter, Leave, Motion, FocusIn/out

KeyPress, ...

```
Ld=tk.Label(root); Ld.pack()
```

```
root.bind("<ALT-KeyPress-a>", Lambda  
event: Ld["text"]="secret!")
```

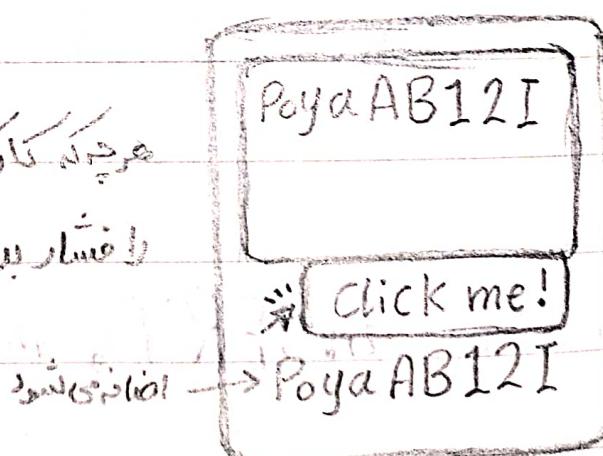


```
text=tk.Text(root); text.pack()
```

```
btn=tk.Button(root, text="click me!", command  
=Lambda: tk.Label(root, text=text.get(1.0  
, tk.END)).pack())
```

btn که از پنجه میگیریم و پس از آن text را در کجا میکنیم

افزوده میشود.



```
# tk.Text.get(index, index)
```

```
# tk.Text.insert(index, str)
```

tx

tx = tk.Text(root)

فایل نمایش

tx.get(1.0, tk.END)

"Poya123\n456 Mohamadi\n@#78"

tx.get(1.0, 2.0)

"Poya123"

tx.get(1.0, 3.0) "Poya123\n456 Mohamadi"

tx.get(2.0, 3.0) "456 Mohamadi"

btn = tk.Button(root, text="click", command
= lambda : tx.insert(tk.END, "poya"))

پس از کلیک بر روی Poya، نویسنده آن

(tk.END) می‌شود

حتی اگر متن قبل از آن نوشته باشد

Mohamadi
Poya Poya
1 Poya

Click

tx.insert(tk.INSERT, "poya")

(FocusIn). نوشته شود.

پس از آن poya و click نیز

اضافه شود

Mohamadi

1 poya

M

QZBKT

`tx.insert(3.0, "poya")`

سیو گریلیو! پویا نو، 3 بیز گریلیو،

abc
dF@
Poya Poya efg
Mmn

`tx.insert(3.99, "poya")`

سیو گریلیو! پویا نو، 3 لایک گریلیو،

abc
dF@
efg Poya Poya
Mmn

`tx.insert(tk.END, "poya")`

سیو گریلیو! پویا نو، tx گلایلیو!

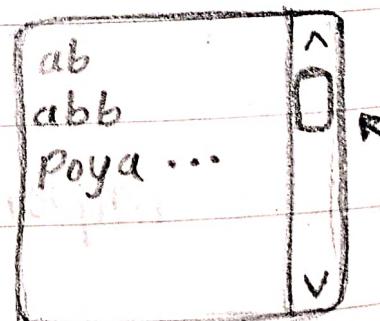
abc
dF@
efg
Mmn Poya

`from tkinter import scrolledtext`

`txt_scroll = scrolledtext.ScrolledText(root)`

`txt_scroll.pack()`

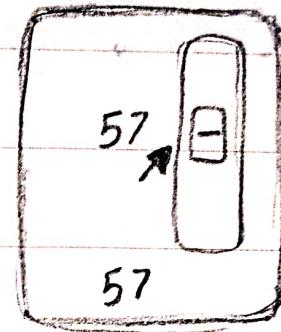
کول سکول گلیلیو نیتکس بوکس



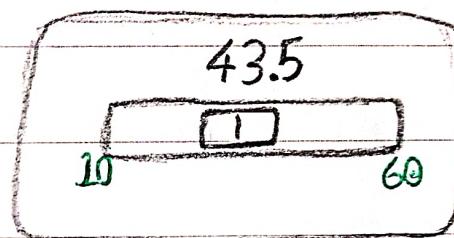
`# Scale progress`

```
scale = tk.Scale(root, command=lambda  
value: Label.config(text=value))  
scale.pack()
```

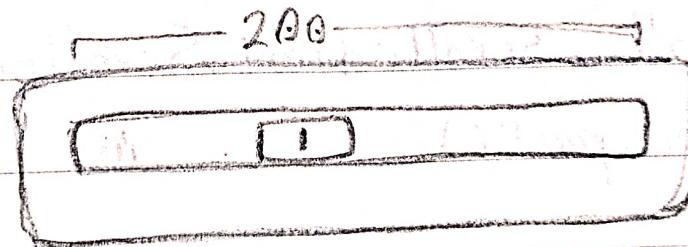
```
Label = tk.Label(root); Label.pack()
```



```
scale = tk.Scale(root, from_=10, to=60,  
orient="horizontal",  
resolution=0.1)  
scale.pack()
```

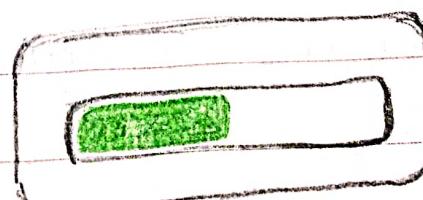


```
tk.Scale(root, showvalue=False, length=200)  
.pack()
```



```
from tkinter import ttk
```

```
ttk.Progressbar(root).pack()
```



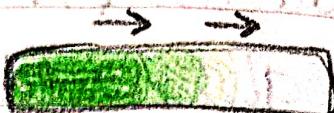
07/07

progressbar = ttk.Progressbar(root)

progressbar.pack()

time example=100

progressbar.start()



progressbar.stop()



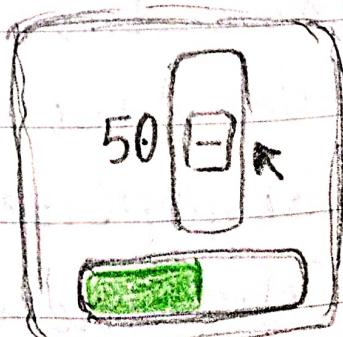
ttk.Progressbar(root, maximum=90,
mode="indeterminate").pack()



\$var = tk.DoubleVar()

tk.Scale(root, variable=var).pack()

ttk.Progressbar(root, maximum=100 ~~variable~~,
variable=var).pack()



```
ent = tk.Entry(root); ent.pack(); List_ = []
```

```
def add_list():
```

```
    global List_
```

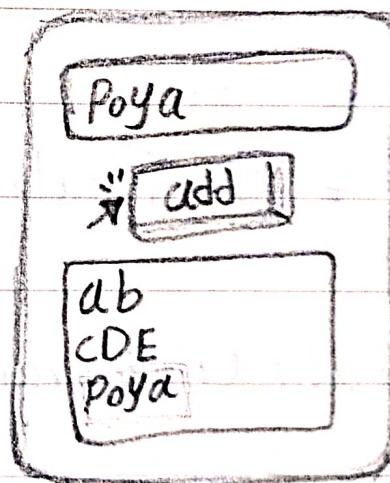
```
    List_.append(ent.get())
```

```
Tabel.insert(tk.END, ent.get())
```

```
btn = tk.Button(root, text="add", command=add_list)  
btn.pack()
```

```
Tabel = tk.Listbox(root); Tabel.pack()
```

Listbox



```
item = tk.StringVar()
```

```
def remove_list():
```

```
    index = List_.index(item.get())
```

```
    List_.pop(item.get())
```

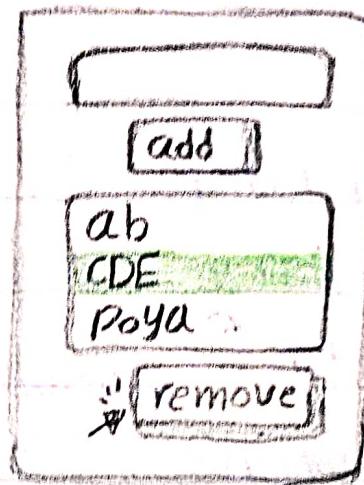
```
    Tabel.delete(index)
```

ONBIT

```
Table.bind("<<ListboxSelect>>", Lambda :  
    item.set(Table.selection_get()))
```

```
btn_remove = tk.Button(root, text="remove", command  
= remove_list)
```

remove زدن از لیست Select از
لیست مورد انتخاب را حذف کنید



Treeview

```
table = ttk.Treeview(root, columns=('first',  
'last', 'number'), show='headings')
```

```
table.heading('first', text='first name')
```

```
table.heading('Last', text='last name')
```

```
table.heading('number', text='phone')
```

```
table.pack()
```

first name	Last name	phone

name = ['Poya', 'Omid', 'Amir', 'Aria']
Last = ['mohamadi', 'mahjor', 'Alizadeh', 'abdoAlla']

phone = ['09**', '09**', '09**', '09**']

for i in range(4):

 data = (name[i], Last[i], phone[i])
 table.insert(parent="", index=0,
 values=data)

first name	Last name	Phone
Poya	mohamadi	09**
Omid	mahjor	09**
Amir	Alizadeh	09**
Aria	abdoAlla	09**

def select(_):
... for i in tabel.selection():
... tk.Label(root, text=tabel.item(i))

ozarbit

```
.... [values']) # table.item()['values']  
... ... .pack()  
... ...
```

```
table.bind("<<TreeviewSelect>>", select)
```

Poya	mohamadi	09***
Omid	mahjor	09***
Amir	Alizadeh	09***
Aria	abdAlla	09***

انتخاب های شده اند item

Poya mohamadi 09***

Amir Alizadeh 09***

دربیان جدول فناش داره می شوند ←

```
def remove(event):
```

```
    for i in tabel.selection():
```

```
        tabel.delete(i)
```

```
tabel.bind("<<Delete>>", remove )
```

Poya	mohamadi	09**
Omid	mahjor	09**
Amir	Alizadeh	09**
Aria	abdAlla	09**

ازدن کلید Delete در پیورد

انتخاب های شده item
حذف می شود.

Delete

07/07/2023

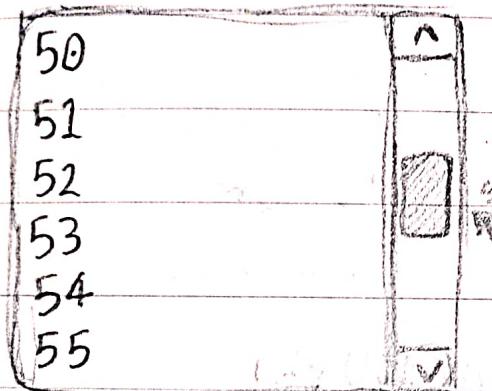
Poya mohamadi 09**

```
list_box = tk.Listbox(root); list_box.pack(  
    expand=True, fill="both")
```

for i in range(100):

```
    list_box.insert(tk.END, f"{i}")
```

```
scroll = tk.Scrollbar(root, command=list_box.yview)  
scroll.pack(side="right", fill="both")
```



```
tk.Spinbox(root, from_=0, to=100).pack()
```



```
Canvas = tk.Canvas(root)
```

```
Canvas.pack()
```

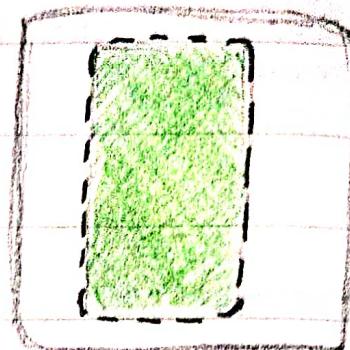
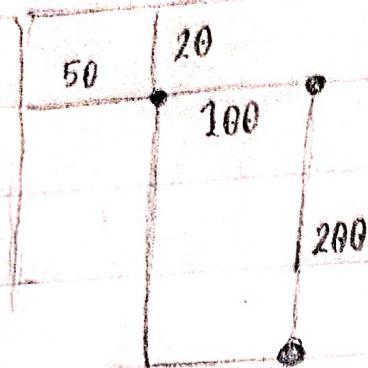
```
Canvas.create_rectangle((50, 20, 100, 200), fill="green",  
    width=5, dash=(200, 150))
```

خطای سیم
خطای سیم

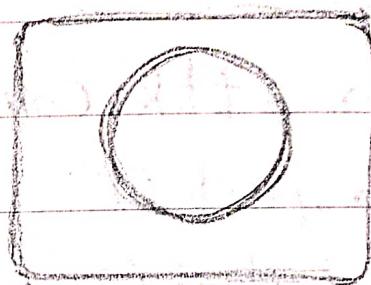
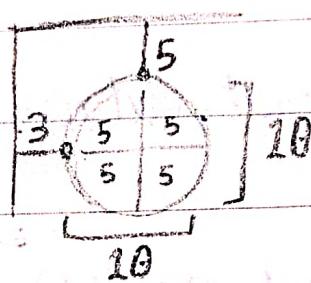
زیگ زائی کردن
خطای سیم

خطای سیم

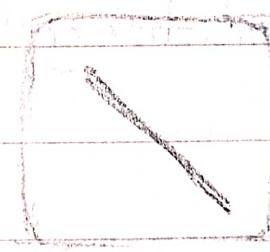
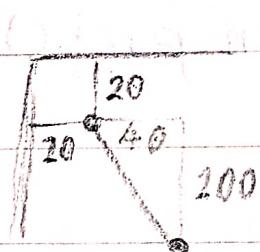
#(left,top,right,bottom)



Canvas.create_oval((3,5,10,10))



Canvas.create_line((10,20,40,100))



def draw(event):

x = event.x ; y = event.y

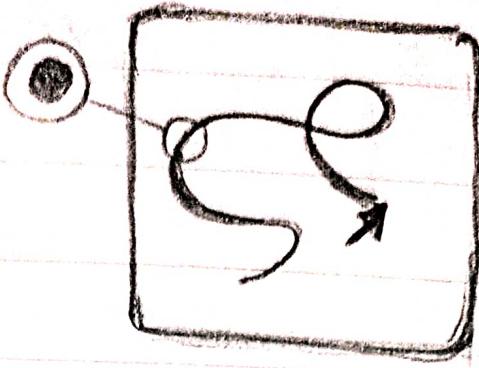
Canvas.create_oval((x-brush/2,y-brush/2,
x+brush/2,y+brush/2), fill="black")

brush=4

Canvas.bind("<Motion>", draw)



= 4



Frame

LabelFrame

Combobox

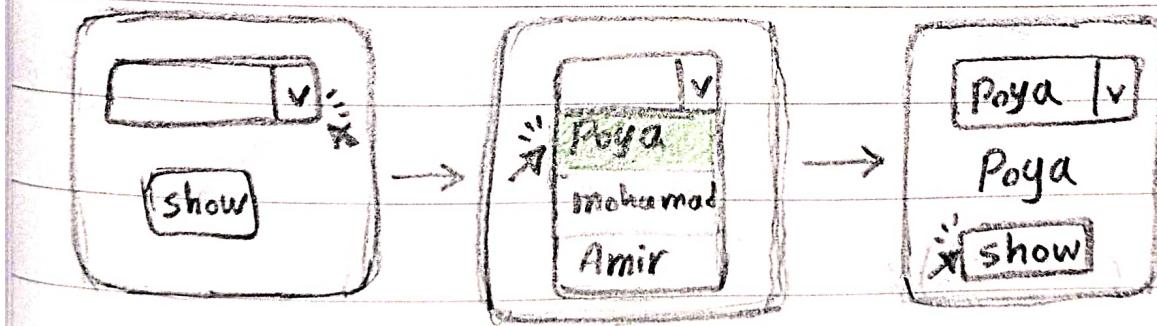
name_list = ['Poya', 'mohamad', 'Amir']

Combobox = ttk.Combobox(root, value=name_list)

Combobox.pack()

Label = tk.Label(root) ; Label.pack()

btn = tk.Button(root, text='Show', command=Label.config(text=Combobox.get())) ; btn.pack()



frame = tk.Frame(root, relief=tk.GROOVE,
height=200, width=200, borderwidth=5)

frame.pack()

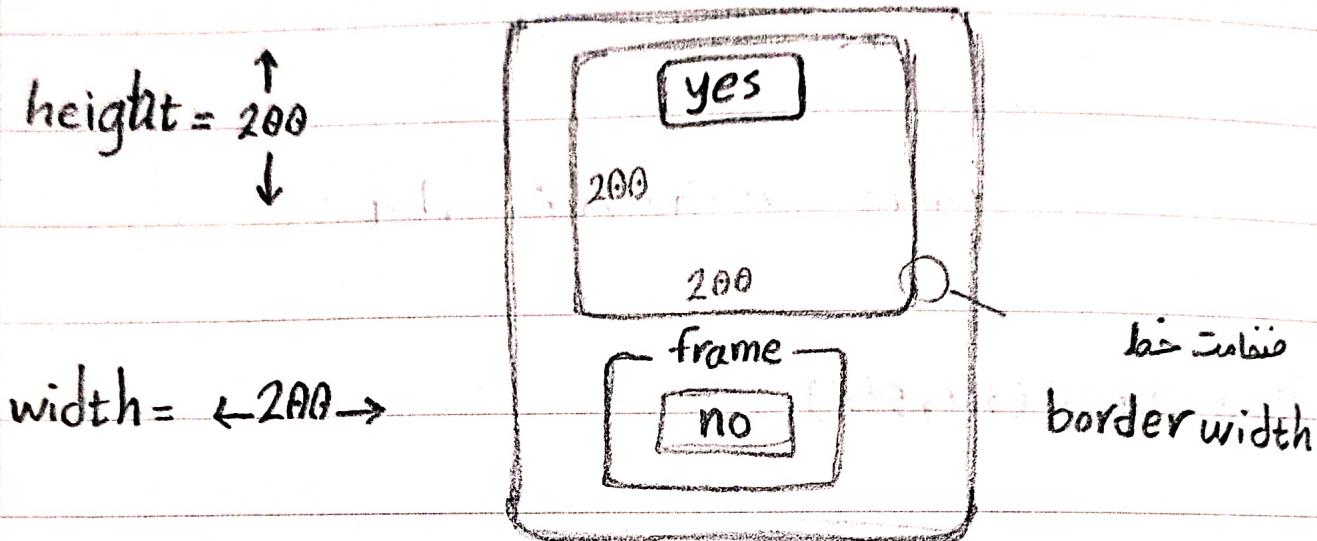
tk.Button(frame, text="yes").pack()

`frame.pack_propagate(False)`

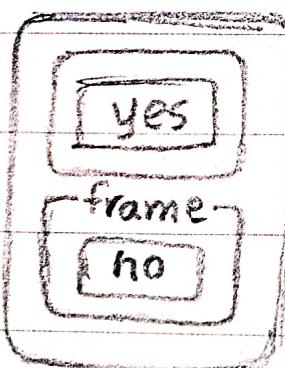
`Label-frame = tk.LabelFrame(root, text='frame')`

`Label-frame.pack()`

`tk.Button(Label-frame, text='no').pack()`



`fram.pack_propagat(True)`



`Label-frame` ~~width=200 height=200~~

• `pack_propagat(True)`

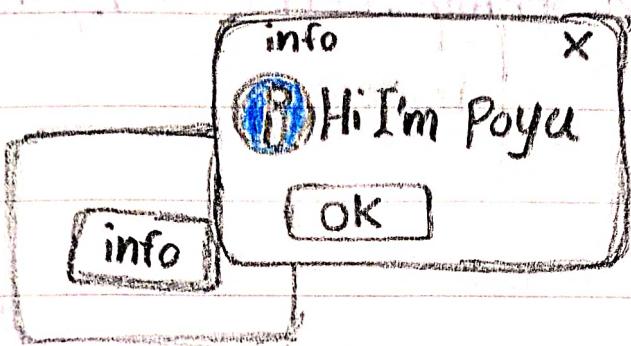
MessageBox

`from tkinter import messagebox`

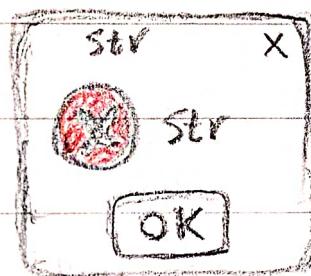
`def info():`

... messagebox.showinfo('info', 'Hi, I\'m Poya')

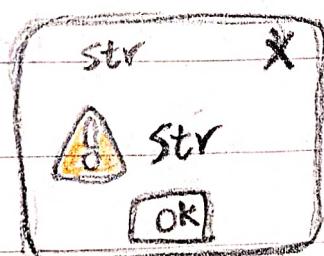
tk.Button(root, text='info', command=info).pack()



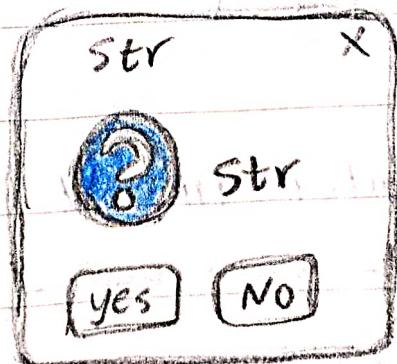
.showerror(str,str)



.showwarning(str,str)



.askquestion(str,str)



#return bool

ozhit

menu

menu = tk.Menu(root)

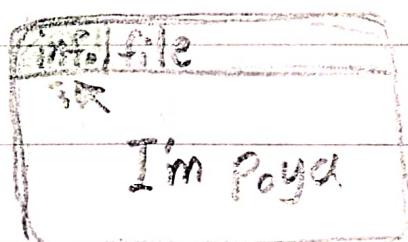
root.config(menu=menu)

def info():

tk.Label(root, text="I'm Poya").pack()

menu.add_command(label='info', command=info)

menu.add_command(label='file')



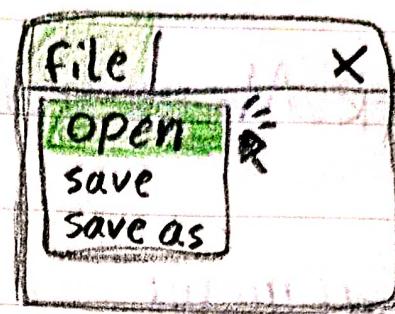
file_menu = tk.Menu(menu)

file_menu.add_command(label='open')

file_menu.add_command(label='save')

file_menu.add_command(label='save as')

```
menu.add_cascade(label='file',  
menu=file_menu)
```



```
pannel_1 = tk.PanedWindow(root, bg='black')
```

```
pannel_1.pack()
```

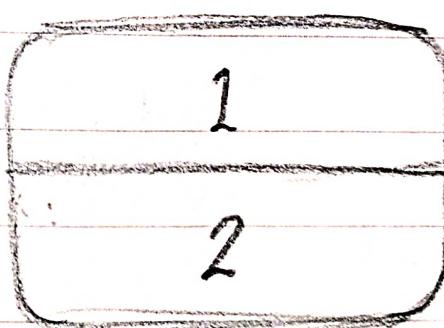
```
label_1 = tk.Label(pannel_1, text="1")
```

```
pannel_1.add(label_1)
```

```
pannel_2 = tk.PanedWindow(root)
```

```
label_2 = tk.Label(pannel_2, text="2")
```

```
pannel_2.add(label_2)
```

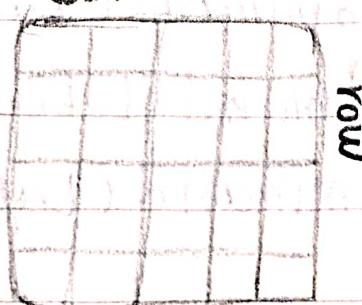
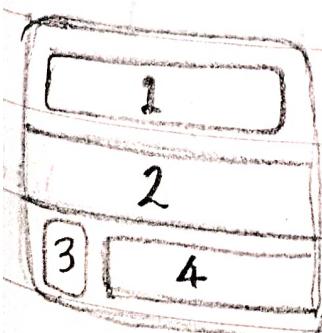


Pack

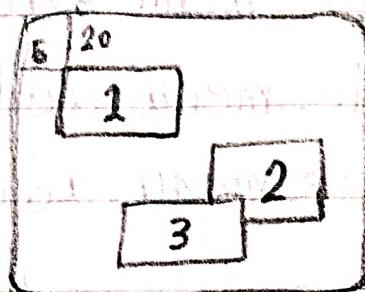
Grid

Place

Column



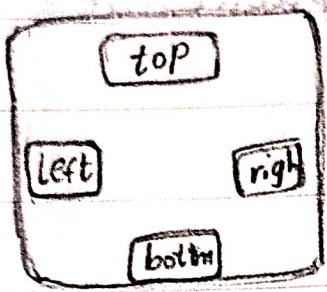
row



List_side = ["left", "right", "top", "bottom"]

for side in list_side:

tk.Button(root, text=f'{side}').pack(side=side)



tk.LEFT == "left"

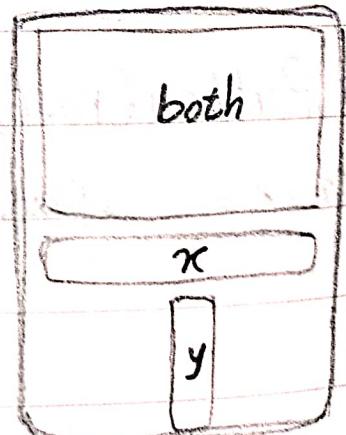
tk.END == "end"

List_fill = ["both", "x", "y"]

for fill in list_fill:

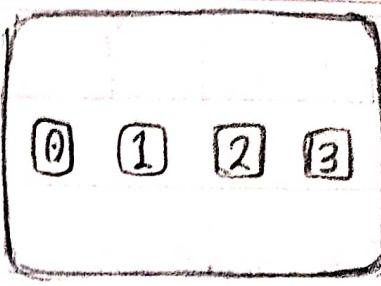
tk.Button(root, text=f'{fill}').pack(expand=True, fill=fill)

"both" == tk.BOTH



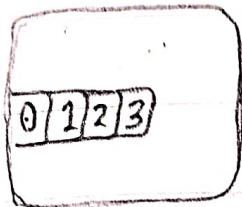
for num in range(4):

tk.Button(root, text=f'{num}').pack(side="left", expand=True)



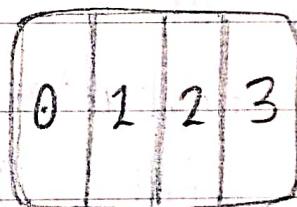
for i in range(4):

```
tk.Button(root, text=f'{i}").pack(side="left")
```

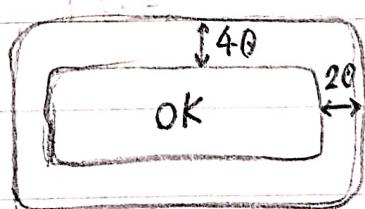


for i in range(4):

```
tk.Button(root, text=f'{i}").pack(side="left",  
expand=True, fill="Both")
```



```
tk.Button(root, text="OK").pack(fill="both", expand=True  
, padx=20, pady=40)
```



```
tk.Button(root, text="OK").pack(expand=True,  
ipadx=10, ipady=40)
```

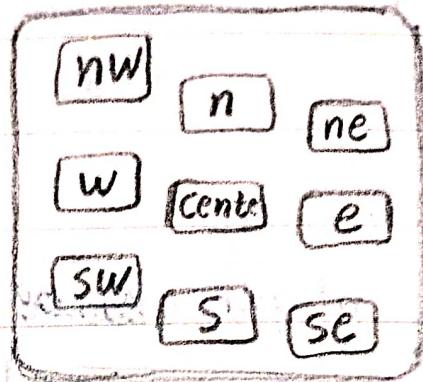


07/07

List_anchor = ["nw", "n", "ne", "w", "center", "e", "sw", "s", "se"]

for anchor in List_anchor:

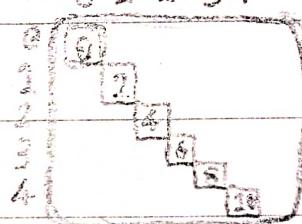
```
tk.Button(root, text=f'{anchor}').pack(anchor  
= anchor)
```



grid

for xy in range(0, 11, 2):

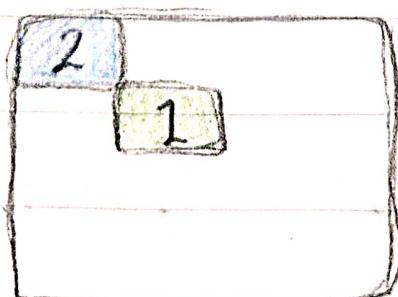
```
tk.Button(root, text=f'{xy}').grid(row=xy,  
Column=xy)
```



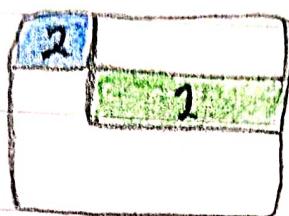
bg

```
tk.Label(root, "green", text="1").grid(row=5, column=7)
```

```
tk.Label(root, bg="lightblue", text="2").grid(row=3,  
column=3)
```



```
root.Columnconfigure(7, weight=2)
tk.Label(root, bg="green", text="1").grid(row=5,
column=7, sticky='nswe')
tk.Label(root, bg="lightblue", text="2").grid(r, w=3
, column=3)
```

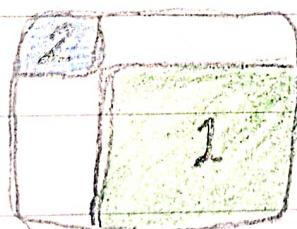


```
root.ColumnConfigure(5 7, weight=2)
```

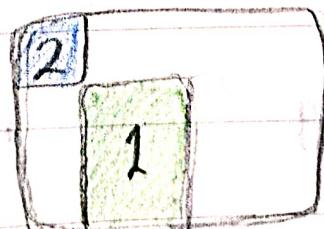
```
root.rowconfigure(5, weight=2)
```

```
tk.Label(root, bg="green", text="1").grid(row=5,
column=7, sticky='nswe')
```

```
tk.Label(root, bg="lightblue", text="2").grid(row=3,
column=3)
```



```
root.ColumnConfigure(8, weight=2)
```

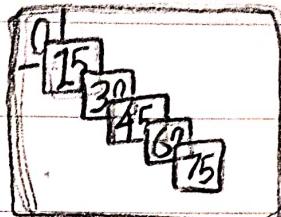
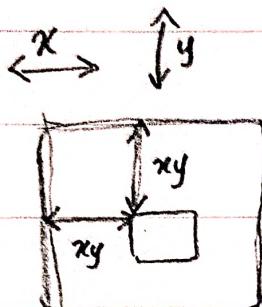


sticky = ["nw", "n", ..., "nswe"]

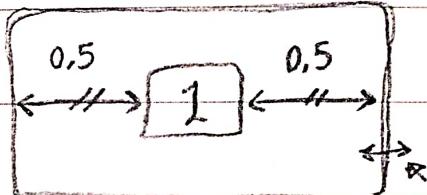
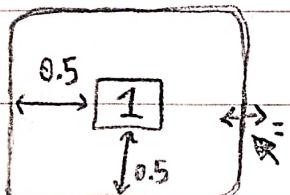
#place

for xy in range(0, 80, 15):

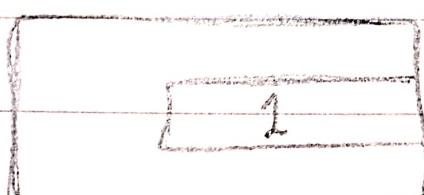
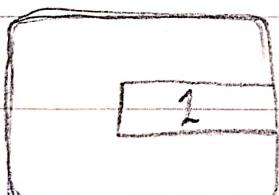
 tk.Button(root, text=f'{xy}").Place(
 x=xy, y=xy)



tk.Button(root, text="1").place(relx=0.5, rely=0.5)



.place(relx=0.5, rely=0.5, relwidth=0.5)

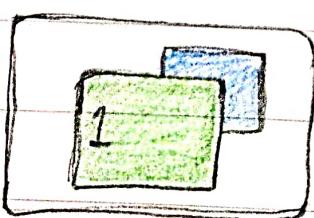


Label-2=tk.Label(root, text="2", bg="blue")

Label-2.place(x=150, y=60, width=140, height=100)

Label-1=tk.Label(root, text="1", bg="green")

Label-1.place(x=50, y=100, width=200, height=150)



label_1.lift() # label_2.lower()

