RANDOM

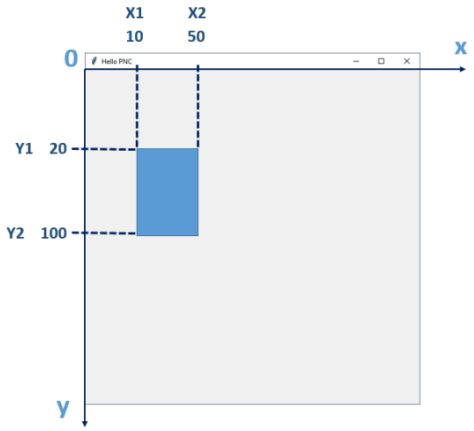
```
import random

numbers = [5,9,6,1]

# Select a number in the list
anyOnArray = random.choice(numbers))

# Select a number btw 10 and 20
anyOnRange = random.randint(10, 20)
```

WINDOW

```
import tkinter as tk

window = tk.Tk()
# Create window width = 600px height =  200 px
window.geometry("600x600")

# Create a canvas on this window
canvas = tk.Canvas(window)
```

DRAW SHAPES

```
canvas = tk.Canvas(root)
canvas.create_rectangle(x1, y1, x2, y2)
canvas.create_oval(x1, y1, x2, y2, fill="#FFFF00“)
canvas.create_line(x1, y1, x2, y2, fill="red")
canvas.create_text(x1, y1, text="Just do it")
```



DRAW IMAGE

```
# Load the image
myImage = tk.PhotoImage(file='.\myImage.gif')

# Add the image to the canvas
myImageId = canvas.create_image(100, 100, image=myImage)
```

SHAPE PROPERTIES

```
myText = canvas.create_text(
                750, 510,
                text=storeCoin,
                font=("serif", 16, BOLD),
                fill="red“
)

# Change the fill color
canvas.itemconfig(myText, fill='blue'
```

MOVE SHAPE

```
rectangleId = canvas.create_rectangle(x1, y1, x2, y2)

# Move at position 40, 40
canvas.moveTo(rectangleId,40, 40)
)
```

KEYBOARD & MOUSE EVENT

```
# bind the up key to the function moveUP
root.bind("up", moveUp)

# Define the function moveUp
def moveUp(event) :
      print(“test”)
```

KEY	Meaning
Up / Down / Left /Right	Arrows keys
<Button-1>	Mouse LEFT click
<Button-2>	Mouse MIDDLE click
<Button-3>	Mouse RIGHT click
Return	Enter key
BackSpace	Backspace key

ANIMATION : MOVE A BALL

```
def moveBall():
    global x
    x+ =1
    canvas.moveTo(ball,x, y)
     # call again after 1 sec
    canvas.after(1000, lambda:moveBall())

x = 0
y = 0

# create the ball and keep the id
ball = canvas.create_oval(x, y, x2, y2)

moveBall()
```

PLAY MUSIC

```
# Load the library for sounds
import winsound

# Play the sound
winsound .PlaySound("test.wav",
 winsound.SND_FILENAME)
```

DELETE ALL SHAPES

```
canvas.delete("all")
```

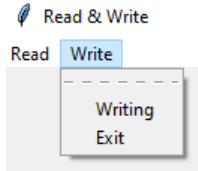
DELETE A SHAPE

```
myId = canvas.create_rectangle(0,0,100,100)
canvas.delete(myId) #Deletes the rectangle
```

USER GUIDE TO TKINTER

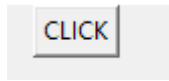
CREATE MENU

```
def onClick():
    print("Do something")

# Create the root menu
root_menu = Menu(root)
root.config(menu=root_menu)

# Add a menu item and bind to a function
root_menu.add_command(label="Read", command= onClick)
```



CREATE BUTTON

```
def onClick():
    print("Do something")

# create a button
button = tk.Button(root, text=“CLICK", command=onClick
button.pack()
```



READ / WRITE FILES

```
# Write on file
file = open('para.txt','a')
file.write("\n" + text.get())
file.close()

# Read  a file
file = open('text.txt','r’)

# Add text in a string
text = file.read()

# Text in a array, line by line
text = file.read()
file.close()
```