

Encode-Decode in python

```
##importing modules
```

```
from tkinter import *
```

```
import base64
```

```
#initialize window
```

```
root = Tk()
```

```
root.geometry('500x300')
```

```
root.resizable(0,0)
```

```
#title of the window
```

```
root.title("Message Encode and Decode")
```

```
#label
```

```
Label(root, text ='ENCODE DECODE', font = 'arial 20 bold').pack()
```

```
#define variables
```

```
Text = StringVar()
```

```
private_key = StringVar()
mode = StringVar()
Result = StringVar()

#####define function#####
#function to encode

def Encode(key,message):
    enc=[]
    for i in range(len(message)):
        key_c = key[i % len(key)]
        enc.append(chr((ord(message[i]) + ord(key_c)) % 256))

    return base64.urlsafe_b64encode("".join(enc).encode()).decode()

#function to decode

def Decode(key,message):
    dec=[]
    message = base64.urlsafe_b64decode(message).decode()
    for i in range(len(message)):
        key_c = key[i % len(key)]
        dec.append(chr((256 + ord(message[i])- ord(key_c)) % 256))
```

```
    return "".join(dec)
```

```
#function to set mode
```

```
def Mode():
```

```
    if(mode.get() == 'e'):
```

```
        Result.set(Encode(private_key.get(), Text.get()))
```

```
    elif(mode.get() == 'd'):
```

```
        Result.set(Decode(private_key.get(), Text.get()))
```

```
    else:
```

```
        Result.set('Invalid Mode')
```

```
#Function to exit window
```

```
def Exit():
```

```
    root.destroy()
```

```
#Function to reset
```

```
def Reset():
```

```
    Text.set("")
```

```
    private_key.set("")
```

```
    mode.set("")
```

```
Result.set("")  
  
##### Label and Button #####  
  
#Message  
Label(root, font= 'arial 12 bold', text='MESSAGE').place(x= 60,y=60)  
Entry(root, font = 'arial 10', textvariable = Text, bg = 'ghost white').place(x=290, y = 60)  
  
#key  
Label(root, font = 'arial 12 bold', text ='KEY').place(x=60, y = 90)  
Entry(root, font = 'arial 10', textvariable = private_key , bg ='ghost white').place(x=290, y = 90)  
  
#mode  
Label(root, font = 'arial 12 bold', text ='MODE(e-encode, d-decode)').place(x=60, y = 120)  
Entry(root, font = 'arial 10', textvariable = mode , bg= 'ghost white').place(x=290, y = 120)  
  
#result  
Entry(root, font = 'arial 10 bold', textvariable = Result, bg ='ghost white').place(x=290, y = 150)  
  
#####result button  
Button(root, font = 'arial 10 bold', text = 'RESULT' ,padx =2,bg ='LightGray' ,command = Mode).place(x=60, y = 150)
```

```
#reset button
```

```
Button(root, font = 'arial 10 bold',text ='RESET' ,width =6, command = Reset,bg = 'LimeGreen',  
padx=2).place(x=80, y = 190)
```

```
#exit button
```

```
Button(root, font = 'arial 10 bold',text= 'EXIT' , width = 6, command = Exit,bg = 'OrangeRed', padx=2,  
pady=2).place(x=180, y = 190)
```

```
root.mainloop()
```