Translator Using GUI

END-TERM REPORT

BACHELOR OF TECHNOLOGY

in

COMPUTER SCIENCE AND ENGINEERING

By:

S.no.	**Name**	**Roll No.**	**Registration no.**
1.	K. Bavish Sai Reddy	20	11902256
2.	G. Mallikarjun Reddy	22	11902297
3.	Sk. Mohammad Reyaz	29	11902242

Courses Code: INT213

School of Computer Science and Engineering

Lovely Professional University

Phagwara, Punjab (India)

Objective

The primary objective of this project is to implement what we've learnt throughout our course of Python programming and use that to develop a Graphical User Interface (GUI) for Translator with all the required functionalities. The translator makes possible exchange of information between the users of different languages by producing the translating language a text which has an identical communicative value with the text. This project also aims at providing a user friendly interface to the users to let them easily use the Translator. This application lets the user to translate a word or a sentence from any language to English and the pronunciation of the word can be known by the user. The main moto of the application is to help the user in translating the words to English and know the pronunciation of that word. This application also provides the user to store translated words for future reference. In this application we also provide to modes. Light mode for the users who likes light colors and Dark mode for the users who likes dark colors.

In this application we have created an attractive user interface. In this application we have a created an entry box and a output box. We have created a clear button. We have created a Translate button and a Speak button. We have created copy and save buttons. We have created a Exit button. We have created two modes like Light mode and Dark mode. We have created a Error box. We have created menu buttons like File, Edit, View etc… . We have created a Saved text box.

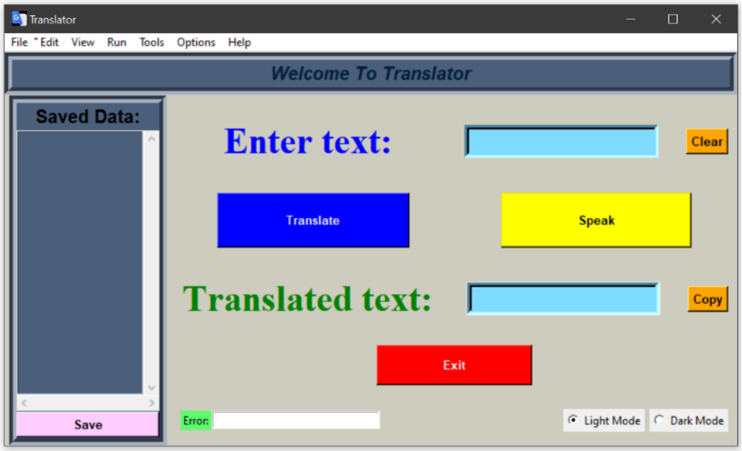
Introduction

In todays generation English is a language spoken by largest number of people across the globe after Chinese and Spanish. English language plays an important role in our lives because it makes possible communication between different countries as the only common language across the globe. It is the only language that truly connects the whole world or best way of communication for people all around the world,and Fluency in English is very important in your business,law or in your professional life. In today’s global world, the importance of English can not be denied and ignored since English is the most common language spoken everwhere.

Translation promotes global interaction thereby allowing interactive relationships in various fields such as technology, finance, trade etc. With the development of technology, it gas become very easy to reach across the nation just with the help of effective translation. Translation is also useful when companies need to tie up with local businesses, or make governmental proposals. Music, literature, films, and various other art forms transcend global boundaries because of the way they are effectively translated to reflect local languages and sentiments. No matter what you believe, the impact on history is undeniable. Translation is helping sports teams and organisations overcome language barriers and transcend international boundaries. TEDTalks’ OpenTranslation project makes the talks understandable to people around the world. There’s no denying the power of the English language.

GUI Screenshots and Explanation

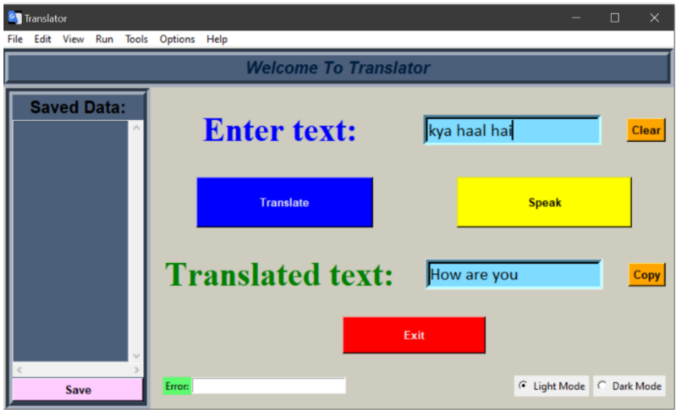
1.Home Screen



● Light Mode ○ Dark Mode

In the home screen we can see the entry box in which the user has to enter the word/sentence which he/she has to translate. The translate button translates the text entered by the user and displays the translated text in the output box. The Speak button makes the computer machine to speak out the translated text.

2.Translation



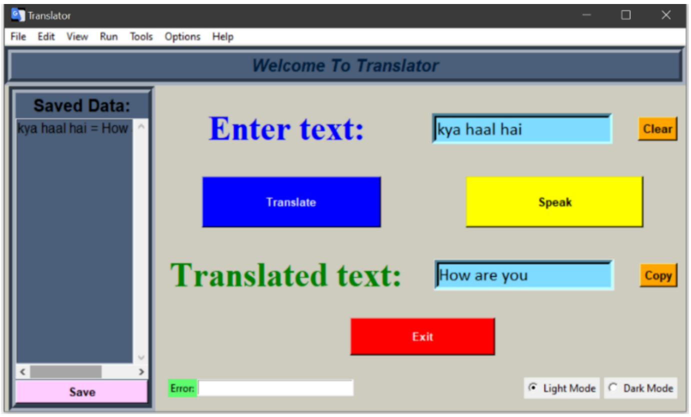
Enter text: kya haal hai

Translated text: How are you

● Light Mode ○ Dark Mode

As above explained the user has entered the text and the text was translated and displayed in the output box.

3.Saving the data



kya haal hai = How

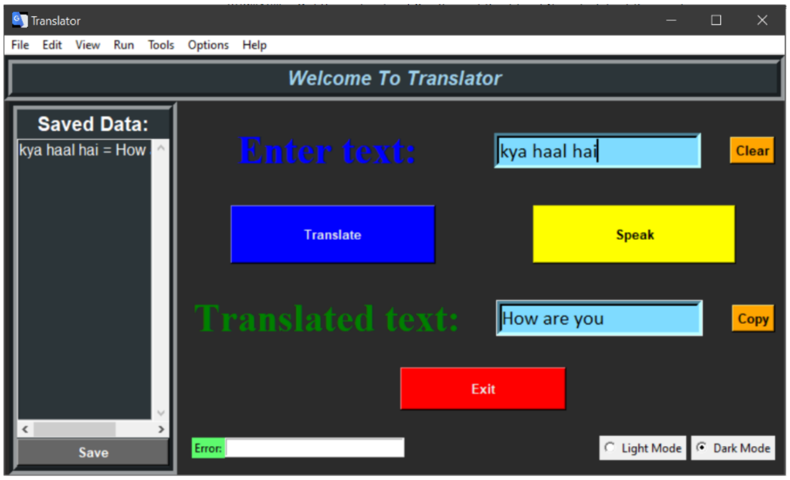
Enter text: kya haal hai

Translated text: How are you

● Light Mode ○ Dark Mode

If the user wants to save the data then he/she wants to click on the copy button. The copy button copies the text entered by the user and the translated text. When the user clicks on the save button the copied text will be permanently saved in the database and the copied text will be displayed in the saved data box.

4.Modes



Saved Data: kya haal hai = How

Enter text: kya haal hai

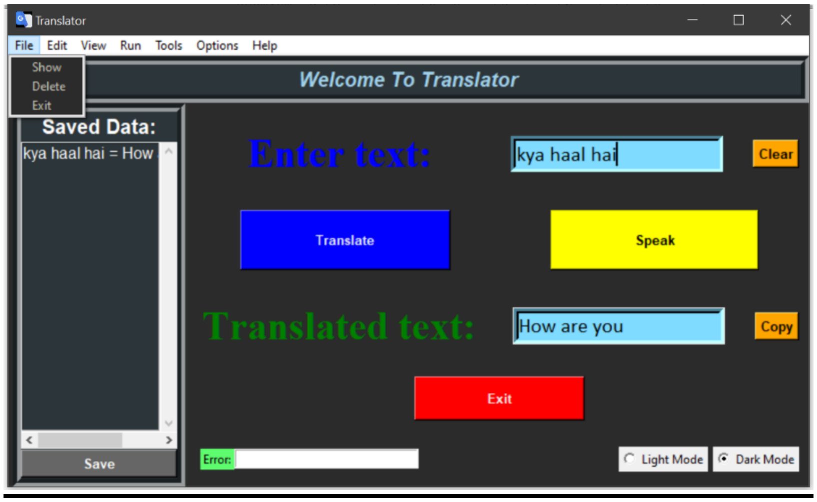
Translated text: How are you

○ Light Mode ● Dark Mode

If the user likes dark colors we have provide two modes for the user. Light mode and Dark mode. When the user clicks on the dark mode the screen colors will be changed to dark colors and if the user wants light colors he/she can click on the light mode then the screen color will be changed to light colors.

5.Menu Buttons

5.1.File



Saved Data: kya haal hai = How

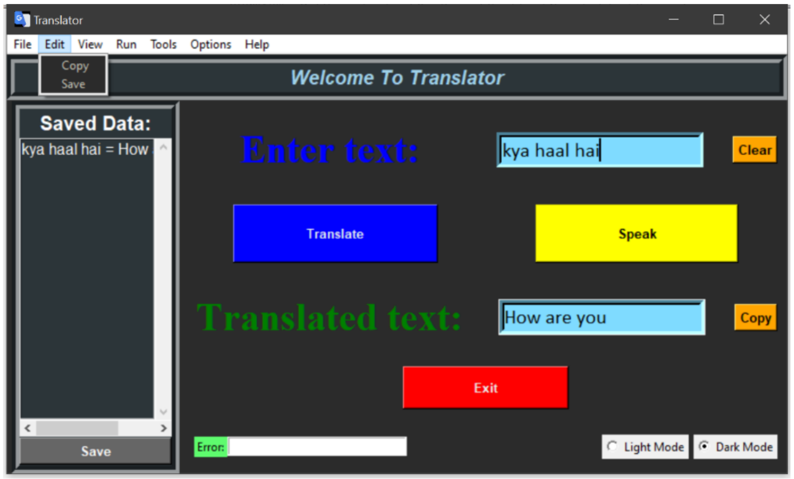
Enter text: kya haal hai

Translated text: How are you

○ Light Mode ● Dark Mode

In the file menu there are three options Show, Delete, Exit. The **show** option displays the previously saved data in the saved data box. The **Delete** option deletes all the previously saved data permanently. The **Exit** button close the application.

5.2.Edit



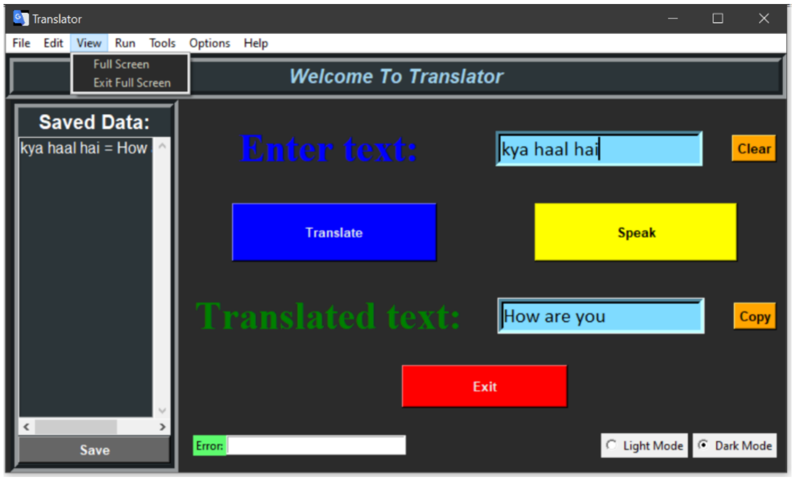
kya haal hai = How

kya haal hai

How are you

In the Edit menu there are two options Copy and Save. The **copy** option do copies the text entered by the user and the translated text. The **save** option saves the copied text and displays the copied text in the saved data box.

5.3View



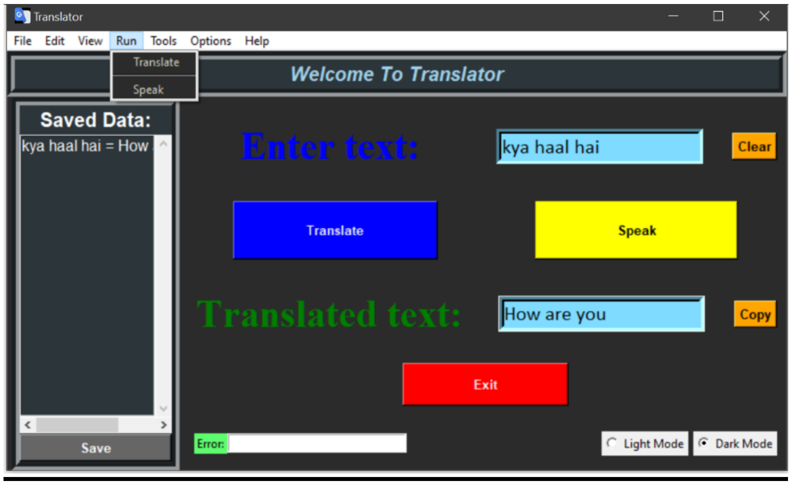
kya haal hai = How

kya haal hai

How are you

In the view button there are two options Full Screen and Exit Full Screen. The **Full Screen** option makes the applications window fit to the users screen. The **Exit Full Screen** option makes the applications window to normal state.

5.4.Run



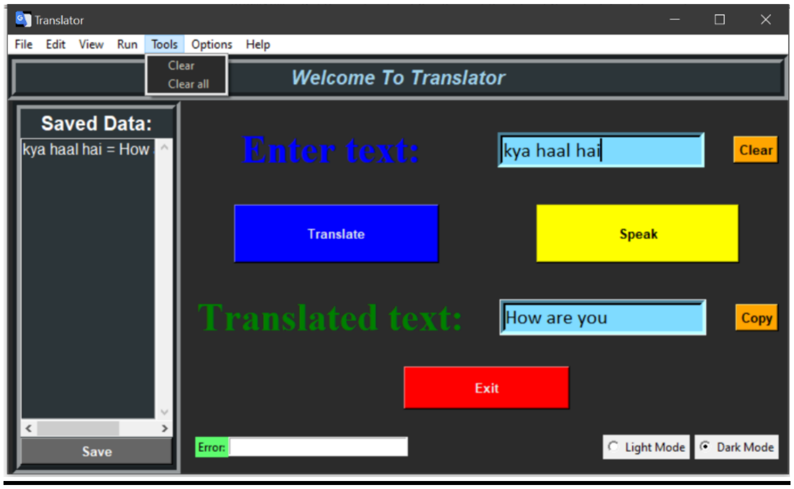
Saved Data: kya haal hai = How

Enter text: kya haal hai

Translated text: How are you

In the Run menu there are two options Translate and Speak. The **Translate** option translates the text entered by the user and displays the translated text in the output box. The **Speak** option makes the computer machine to speak out the translated text.

5.5.Tools



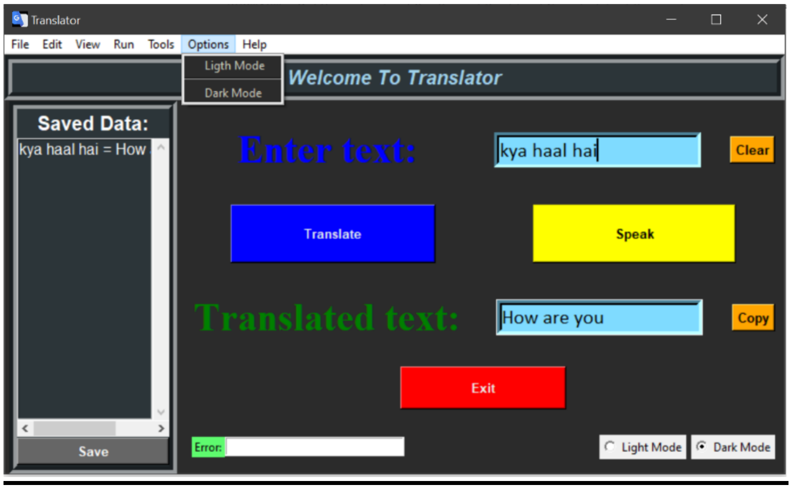
Saved Data: kya haal hai = How

Enter text: kya haal hai

Translated text: How are you

In the Tools menu there are two options clear and clear all. The **clear** option clears the text entered by the user in the entry box. The **clear all** options clears the all the contents on the screen.

5.6.Options



kya haal hai = How

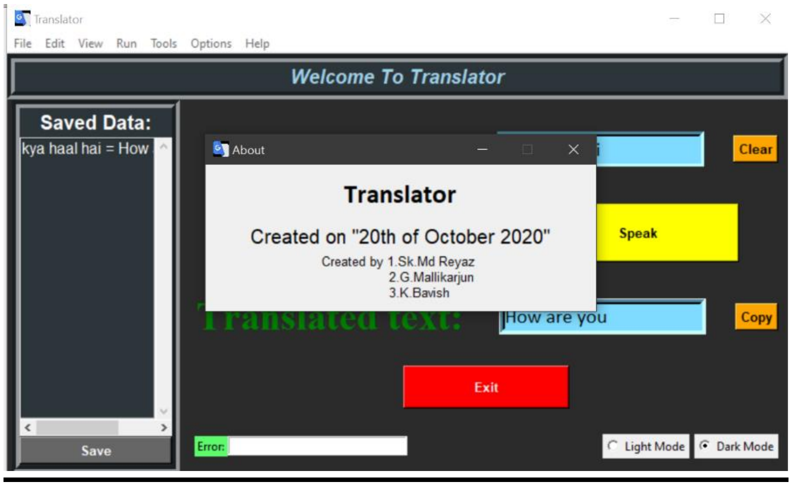
Enter text: kya haal hai

Translated text: How are you

○ Light Mode ● Dark Mode

In the options menu there are two options Light mode and Dark mode. The **Light mode** changes the screen colors into light colors. The **Dark mode** changes the screen colors to dark colors.

5.7.Help



kya haal hai = How

Translator

Created on "20th of October 2020"

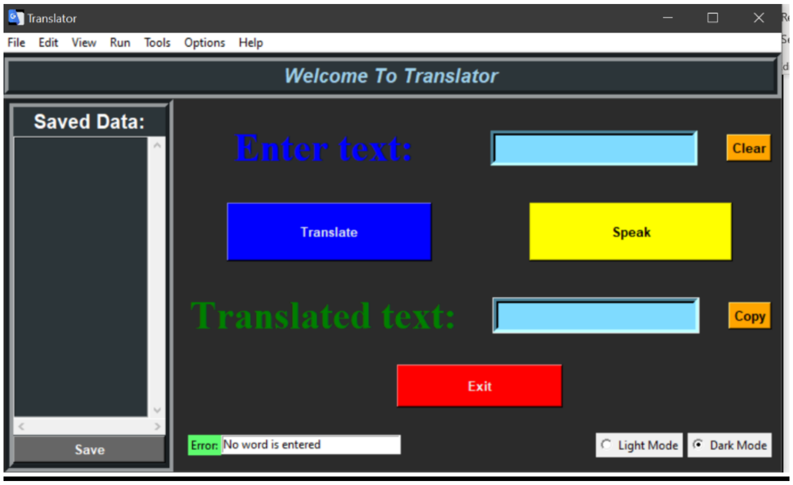
Created by 1.Sk.Md Reyaz
2.G.Mallikarjun
3.K.Bavish

How are you

○ Light Mode ● Dark Mode

In the help menu there is one option About. When the user clicks on the **About** option a window will be pop up as shown in above picture.

6.Error Box

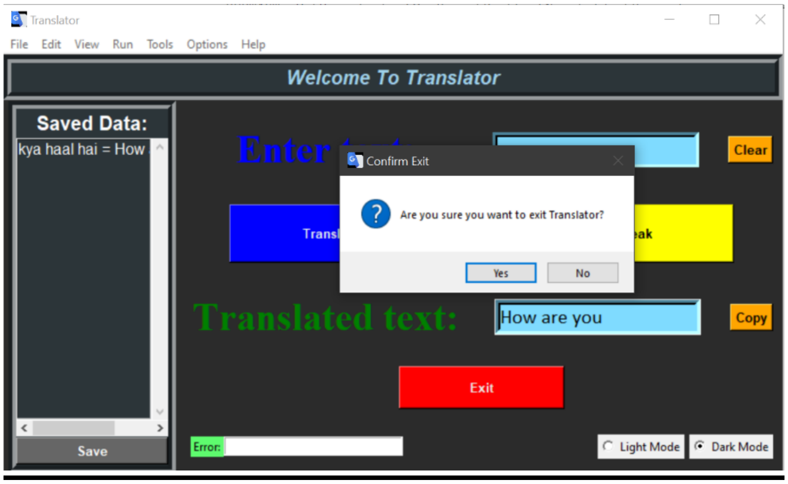


Error: No word is entered

○ Light Mode ● Dark Mode

The error box displays the message when the user makes mistakes or tries to translate by not entering words/sentences etc… the error box displays the mistake that he is doing.

7.Exit Button



Saved Data: kya haal hai = How

Confirm Exit

Are you sure you want to exit Translator?

Translated text: How are you

○ Light Mode ● Dark Mode

When the user clicks on the **Exit** button or clicks the **Exit** option in **File menu** or tries to close the window a message box will pop up to confirm the closing of the window.

Source Code

```
import mysql.connector
from googletrans import Translator
import pyttsx3
from tkinter import *
from tkinter import messagebox
root=Tk()
root.geometry("800x450")
root.title("Translator")
root.configure(bg="#CECCBE")
root.iconbitmap(r'2.ico')
en=StringVar()
i=IntVar()
dt=StringVar()
mydb=mysql.connector.connect(host="localhost",user="root",passwd="*********",
 database="translator")
mycursor=mydb.cursor()
#mycursor.execute("create database Translator")
#mycursor.execute("create table Words (Enteredtext varchar(500),Translatedtext
 varchar(500))")
#mydb.commit()
def trans():
    global word
    word = en.get()
    try:
        if word == "":
            e="No word is entered"
            er.delete(0,"end")
            er.insert("end",e)
        else:
            global speech
            trans = Translator().translate(word)
            speech = trans.text
            txt.delete(0,"end")
            txt.insert("end",speech)
            er.delete(0,"end")
    except:
        e="Not connected to the internet"
        er.delete(0,"end")
        er.insert("end",e)
def speak():
    try:
        eng = pyttsx3.init()
        sound = eng.getProperty("voices")
        eng.setProperty("voice", sound[1].id)
        eng.say(speech)
        eng.runAndWait()
        er.delete(0,"end")
    except NameError:
        e="No word is translated"
        er.delete(0,"end")
        er.insert("end",e)
def ext():
    ans=messagebox.askquestion("Confirm Exit", "Are you sure you want to exit
 Translator?")
    if ans == "yes":
        root.destroy()
    else:
        return
def cllk():
    root.config(bg="#CECCBE")
    c1.config(bg="#CECCBE")
    c2.config(bg="#CECCBE")
    c3.config(bg="#CECCBE")
    c4.config(bg="#CECCBE")
    el.config(bg="#CECCBE")
    tl.config(bg="#CECCBE")
    f.config(bg="#4c5f7a")
    cl.config(bg="#4c5f7a",fg="#000000")
    c.config(bg="#4c5f7a")
    text.config(bg="#4c5f7a",fg="#000000")
    btp.config(bg="#FFCCFF",fg="#000000")
    lf.config(bg="#4c5f7a",fg="#001f3f")
    f1.config(bg="#CECCBE",fg="#000000")
    f2.config(bg="#CECCBE",fg="#000000")
    f3.config(bg="#CECCBE",fg="#000000")
    f4.config(bg="#CECCBE",fg="#000000")
    f5.config(bg="#CECCBE",fg="#000000")
    f6.config(bg="#CECCBE", fg="#000000")
    f7.config(bg="#CECCBE", fg="#000000")
def cldk():
    root.config(bg="#2B2B2B")
    c1.config(bg="#2B2B2B")
    c2.config(bg="#2B2B2B")
    c3.config(bg="#2B2B2B")
    c4.config(bg="#2B2B2B")
    el.config(bg="#2B2B2B")
    tl.config(bg="#2B2B2B")
    f.config(bg="#2C3539")
    cl.config(bg="#2C3539",fg="white")
    c.config(bg="#2C3539")
    text.config(bg="#2C3539",fg="#ffffff")
    btp.config(bg="#666666",fg="#FFFFFF")
    lf.config(bg="#2C3539",fg="#a0d2eb")
    f1.config(bg="#2B2B2B",fg="#CECCBE")
    f2.config(bg="#2B2B2B",fg="#CECCBE")
    f3.config(bg="#2B2B2B",fg="#CECCBE")
    f4.config(bg="#2B2B2B",fg="#CECCBE")
    f5.config(bg="#2B2B2B",fg="#CECCBE")
    f6.config(bg="#2B2B2B",fg="#CECCBE")
    f7.config(bg="#2B2B2B",fg="#CECCBE")
def clk():
    r2.config(value=0)
    r1.config(value=1)
def cdk():
    r2.config(value=1)
    r1.config(value=0)
def clr():
    ety.delete(0,"end")
def cla():
    ans=messagebox.askquestion("Confirm Clear", "It clears the 'Saved Data' \n But
 don't worry the Data is stored")
    if ans=="yes":
        ety.delete(0,"end")
        txt.delete(0,"end")
        text.delete(0,"end")
    else:
        return
def cpy():
    global cp,x,y
    try:
        word=en.get()
        if word=="":
            e="No word is entered"
            er.delete(0,"end")
            er.insert("end",e)
        else:
            x=word
            y=speech
            cp=x+" = "+y+"\n"
            return cp
    except NameError:
        e="No word is entered/translated"
        er.delete(0,"end")
        er.insert("end",e)
def pst():
    try:
        text.insert("end",cp)
        form = "insert into words (Enteredtext,Translatedtext) values(%s,%s)"
        mems = [(x, y)]
        mycursor.executemany(form, mems)
        mydb.commit()
    except NameError:
        e="No word is copied"
        er.delete(0,"end")
        er.insert("end",e)
def dlt():
    ans=messagebox.askquestion("Warning","Permenantly deletes all the Stored
 Data",default="no",icon="warning")
    if ans=="yes":
        text.delete(0,"end")
        mysql = "TRUNCATE TABLE Words"
        mycursor.execute(mysql)
        mydb.commit()
    else:
        return
def shw():
    text.delete(0, "end")
    mycursor.execute("select * from words")
    myres = mycursor.fetchall()
    i=1
    for r in myres:
        row=str(i)+'.'+r[0]+'='+r[1]
        text.insert("end",row)
        i=i+1
def abt():
    win=Toplevel()
    win.title("About")
    win.geometry("400x150")
    win.resizable(False, False)
    win.iconbitmap(r'2.ico')
    w=Label(win,text="Translator",font=("Calibri",20,"bold"),width=10)
    w.pack(pady=10)
    c=Label(win,text='Created on "20th of October 2020"',font=("Arial",15))
    c.pack()
    b=Label(win,text=("Created by 1.Sk.Md Reyaz \n \t   2.G.Mallikarjun \n
 3.K.Bavish"),font=("Arial",10))
    b.pack()
def clf():
    root.attributes("-fullscreen",True)
```

```
def cle():
    root.attributes("-fullscreen",False)
mb=Menu(root)
root.config(menu=mb)
f1=Menu(mb,tearoff=False,bg="#CECCBE",fg="#000000")
mb.add_cascade(label="File",menu=f1)
f1.add_command(label="Show",command=shw)
f1.add_command(label="Delete",command=dlt)
f1.add_command(label="Exit",command=ext)
f2=Menu(mb,tearoff=False,bg="#CECCBE",fg="#000000")
mb.add_cascade(label="Edit",menu=f2)
f2.add_command(label="Copy",command=cpy)
f2.add_command(label="Save",command=pst)
f3=Menu(mb,tearoff=False,bg="#CECCBE",fg="#000000")
mb.add_cascade(label="View",menu=f3)
f3.add_command(label="Full Screen",command=clf)
f3.add_command(label="Exit Full Screen",command=cle)
f4=Menu(mb,tearoff=False,bg="#CECCBE",fg="#000000")
mb.add_cascade(label="Run",menu=f4)
f4.add_command(label="Translate",command=trans)
f4.add_separator()
f4.add_command(label="Speak",command=speak)
f5=Menu(mb,tearoff=False,bg="#CECCBE",fg="#000000")
mb.add_cascade(label="Tools",menu=f5)
f5.add_command(label="Clear",command=clr)
f5.add_command(label="Clear all",command=cla)
f6=Menu(mb,tearoff=False,bg="#CECCBE",fg="#000000")
mb.add_cascade(label="Options",menu=f6)
f6.add_command(label="Ligth Mode",command=lambda : [cllk(),clk()])
f6.add_separator()
f6.add_command(label="Dark Mode",command=lambda : [cldk(),cdk()])
f7=Menu(mb,tearoff=False,bg="#CECCBE",fg="#000000")
mb.add_cascade(label="Help",menu=f7)
f7.add_command(label="About",command=abt)
f=Frame(root,bg="#4c5f7a",borderwidth=8,relief=GROOVE)
f.pack(side=TOP,fill=X,pady=1)
```

```
lf=Label(f,text="Welcome To Translator",bg="#4c5f7a",fg="#001f3f",font="Arial 15 italic bold")
lf.pack()
c=Frame(root,bg="#4c5f7a",borderwidth=8,relief=GROOVE)
c.pack(side=LEFT,fill=Y,padx=5)
btp=Button(c,text="Save",font="Arial 10 bold",bg="#FFCCFF",command=pst)
btp.pack(side=BOTTOM,fill=X,pady=1)
cl=Label(c,text="Saved Data:",fg="black",bg="#4c5f7a",font=("Arial",15,"bold"))
cl.pack()
sx=Scrollbar(c,orient=HORIZONTAL)
sx.pack(side=BOTTOM,fill=X)
sy=Scrollbar(c)
sy.pack(side=RIGHT,fill=Y)
text=Listbox(c,font="Arial 12",fg="#000000",bg="#4c5f7a",width=15,height=30,xscrollcommand=sx.set,yscrollcommand=sy.set)
text.pack()
sx.config(command=text.xview)
sy.config(command=text.yview)
c1=Frame(root,bg="#CECCBE",height=200,width=250)
c1.pack(fill=X)
c2=Frame(root,bg="#CECCBE",height=200,width=250)
c2.pack(fill=X,pady=1)
c3=Frame(root,bg="#CECCBE",height=200,width=250)
c3.pack(fill=X)
el=Label(c1,text="Enter text:",font=("Times new roman",30,"bold"),fg="blue",bg="#CECCBE",height=2,width=12)
el.pack(side=LEFT,pady=2,padx=2)
btc=Button(c1,text="Clear",font="Arial 10 bold",bg="orange",command=clr)
btc.pack(side=RIGHT,padx=10)
ety=Entry(c1,textvariable=en,width=20,font=("Calibri",15),bg="#7FDBFF",borderwidth=5)
ety.pack(side=RIGHT,padx=20)
tb=Button(c2,text="Translate",font=("Arial",10,"bold"),fg="#e2ebf0",bg="blue",command=trans,height=3,width=25,activebackground="#6699FF")
tb.pack(side=LEFT,pady=5,padx=50)
```

```
sb=Button(c2,text="Speak",font=("Arial",10,"bold"),fg="#000000",bg="yellow",command=speak,height=3,width=25,activebackground="#FFFF99")
sb.pack(side=RIGHT,padx=50)
tl=Label(c3,text="Translated text:",font=("Times new roman",30,"bold"),fg="green",bg="#CECCBE",height=2,width=12)
tl.pack(side=LEFT,pady=2,padx=2)
btc=Button(c3,text="Copy",font="Arial 10 bold",bg="orange",command=cpy)
btc.pack(side=RIGHT,padx=10)
txt=Listbox(c3,height=1,width=20,font=("Calibri",15),bg="#7FDBFF",borderwidth=5)
txt.pack(side=RIGHT,padx=20)
bte=Button(root,text="Exit",font=("Arial",10,"bold"),bg="red",fg="#EEEEEE",command=ext,height=2,width=20)
bte.pack()
c4=Frame(root,height=100,bg="#CECCBE")
c4.pack(side=BOTTOM,fill=X,pady=15,padx=10)
r1=Radiobutton(c4,text="Dark Mode",value=1,variable=i,command=cldk)
r1.pack(side=RIGHT)
r2=Radiobutton(c4,text="Light Mode",value=0,variable=i,command=cllk)
r2.pack(side=RIGHT,padx=5)
erl=Label(c4,text="Error:",bg="#5EFB6E")
erl.pack(side=LEFT)
er=Listbox(c4,height=1,width=30)
er.pack(side=LEFT)
root.protocol("WM_DELETE_WINDOW",ext)
root.mainloop()
```

Results

We finally created a “Translator” which translates the text from any language to English.

To create this application we used the following modules:

- googletrans
- tkinter
- mysql.connector

We leant how to create an GUI application using tkinter in python and we also learnt how connect the data base with python using mysql.

In this application the end user can translate the words from any language to English. The user can also know the pronunciation of the translated word/sentence. The user can also save the text for future references. The user can keep the appearance of the application as he likes. The user can also access the entire application from the menu buttons. The user can know the mistakes he/she is doing by the interactive error message.

References

- https://www.w3schools.com/python/
- https://www.geeksforgeeks.org/sql-using-python/
- https://stackoverflow.com/
- www.tutorialspoint.com
- www.reddit.com
- www.google.co.in
- www.quora.com
- https://www.python-course.eu/index.php
- http://www.dealingdata.net/2016/08/21/Python-MySQL-GUI/
- www.blog.pythonlibrary.org
- http://effbot.org/tkinterbook/