

DIGITAL PHONE BOOK

Developed in :
Programming Language : Python 3.6
Backend Database : My SQL
Interface : Tkinter

[Submitted for the partial fulfilment of AISSCE (Class XII) Practical Examination in Computer Science New (083) in the year 2020]

**KENDRIYA
VIDYALAYA
PILIBHIT**
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HOSPITAL
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Submitted To:

Shri Deepak Gosain
P.G.T Computer Science
K.V. Pilibhit

Submitted By:

Saatwik Gosain
Class XII-Sci
Roll No.....

Certificate

This is to certify that Saatwik Gosain of class XII Science has prepared the Computer Science project titled “Digital Phone Book “ in Python programming language.

The documentation is a result of his efforts and endeavours. This project is completed in the Vidyalaya practical lab and found worthy of acceptance as final project report for the subject Computer Science class 12th.

He has prepared the report under my guidance in programming language Python, Backend database MySQL and Interface designing in Python Tkinter. The project is submitted on 15-12-2019.

Guided By

Shri Deepak Gosain
PGT Computer Science
Department of Computers
Kendriya Vidyalaya Pilibhit

PRINCIPAL
Mrs. M.Z. Nigar
Kendriya Vidyalaya Pilibhit

Examined By : External Examiner

Date

ACKNOWLEDGEMENT

I

would like to express my deep sense of thanks and gratitude to my mentor and guide **Shri Deepak Gosain**, PGT Computer Science for guiding me immensely through the course of the project. He always and evinced keen interest in my work. His constructive advice and constant motivation have been responsible for the successful completion of this project.

My sincere thanks go to to **Smt. M.Z. Nigar** our **Principal** madam for her coordination in exceeding every possible support for the completion of this project work. She has given me the permission to use the Computer lab for preparing the project.

I also thank to my parents for their motivation and support. I must thank my classmates for their timely help and support for compilation of this project. Last but not least I would like to thank all those who had helped me directly or indirectly towards the completion of this project.

With Regards

Saatwik Gosain

Class 12 Sci.

PROJECT REPORT:

Problem Specification:

To develop a 'Digital Phone Book' in Python Language.

System Specification : To develop digital phone book
we have used following system specifications :

Software Specification :

Programming language :	Python 3.6
Database at backend :	MySQL 5.5
Interface Design :	Python Tkinter
Operating System :	Windows OS 8.1 (32 Bit)
Documentation :	Microsoft Word 2010

Hardware- Software Requirements:

This project can run on any system on which Python 3+ can run smoothly. Its hardware requirement is Windows Operating System 8 or Higher, Python 3.6 or higher version with Tkinter, MySQL 5.1 to 5.8 any version.

It can also run on the Linux machines that run with Python 3.6, MySQL 5.5 with Tkinter.

This project is using MySQL at the backend thus requires **mysql.connector** library in Python to establish MySQL connectivity in Python. The window based interface is designed in

Python default library that is **Tkinter** (Tool Kit Interface). Before using this project mysql.connector and Tkinter library needs to install in python.

Introduction :

Python:

Python is an interpreted, object-oriented, high-level programming language with dynamic semantics. Its high-level built in data structures, combined with dynamic typing and dynamic binding; make it very attractive for Rapid Application Development, as well as for use as a scripting or glue language to connect existing components together.

Python's simple, easy to learn syntax emphasizes readability and therefore reduces the cost of program maintenance. Python supports modules and packages, which encourages program modularity and code reuse.

In this project we have used Python 3.6 version.

Tkinter :

Tkinter is the standard GUI library for Python. Python when combined with Tkinter provides a fast and easy way to create GUI applications. Tkinter provides a powerful object-oriented interface to the Tk GUI toolkit. Developing desktop based applications with python Tkinter is not a complex task. An empty Tkinter top-level window can be created by using the following steps.

1. import the Tkinter module.
2. Create the main application window.
3. Add the widgets like labels, buttons, lists, frames, etc. to the window.

4. Call the main event loop so that the actions can take place on the user's computer screen.

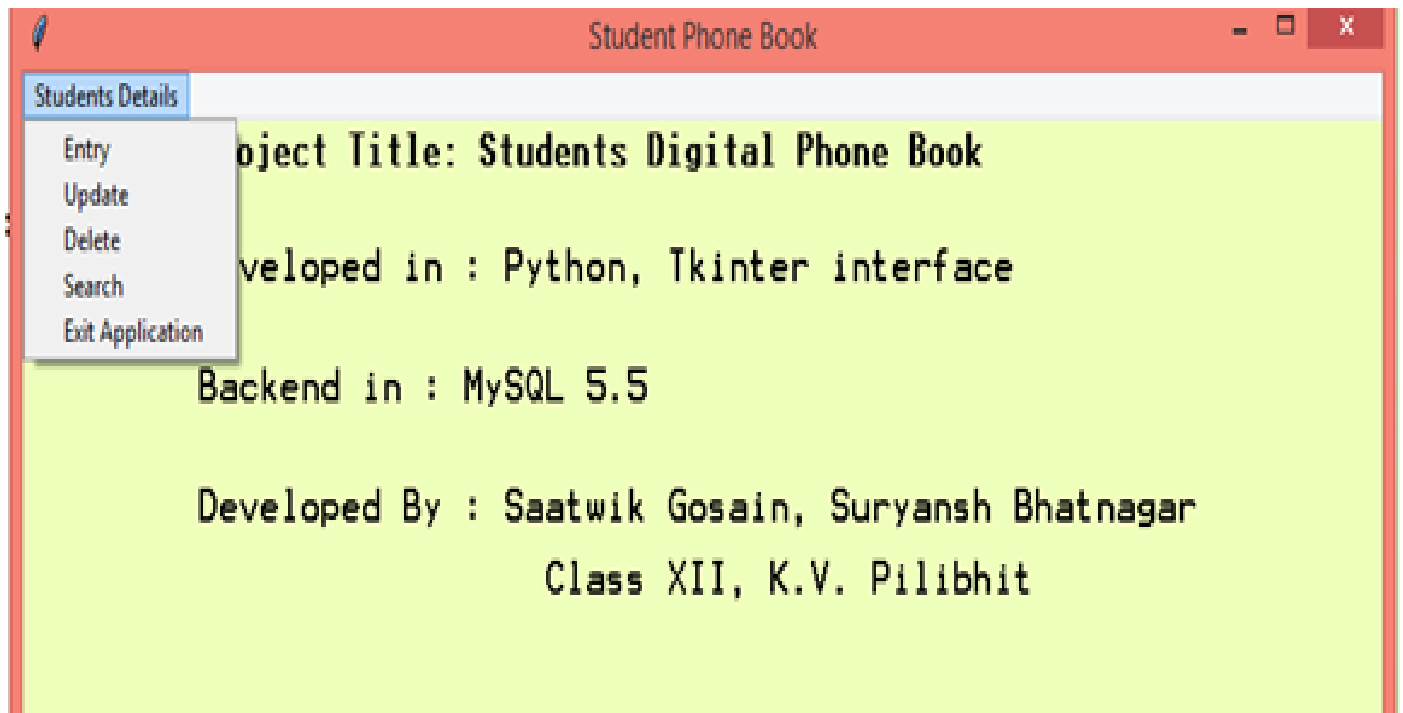
Digital Phone Book :

Digital Phone Book is a simple project that stores student's name, and phone number. Student record having a primary key id, that is used to identify the records in student table. MySQL database named as 'School' is used to store records. This simple project perform CRUD operations in Python. Project contains following menu:

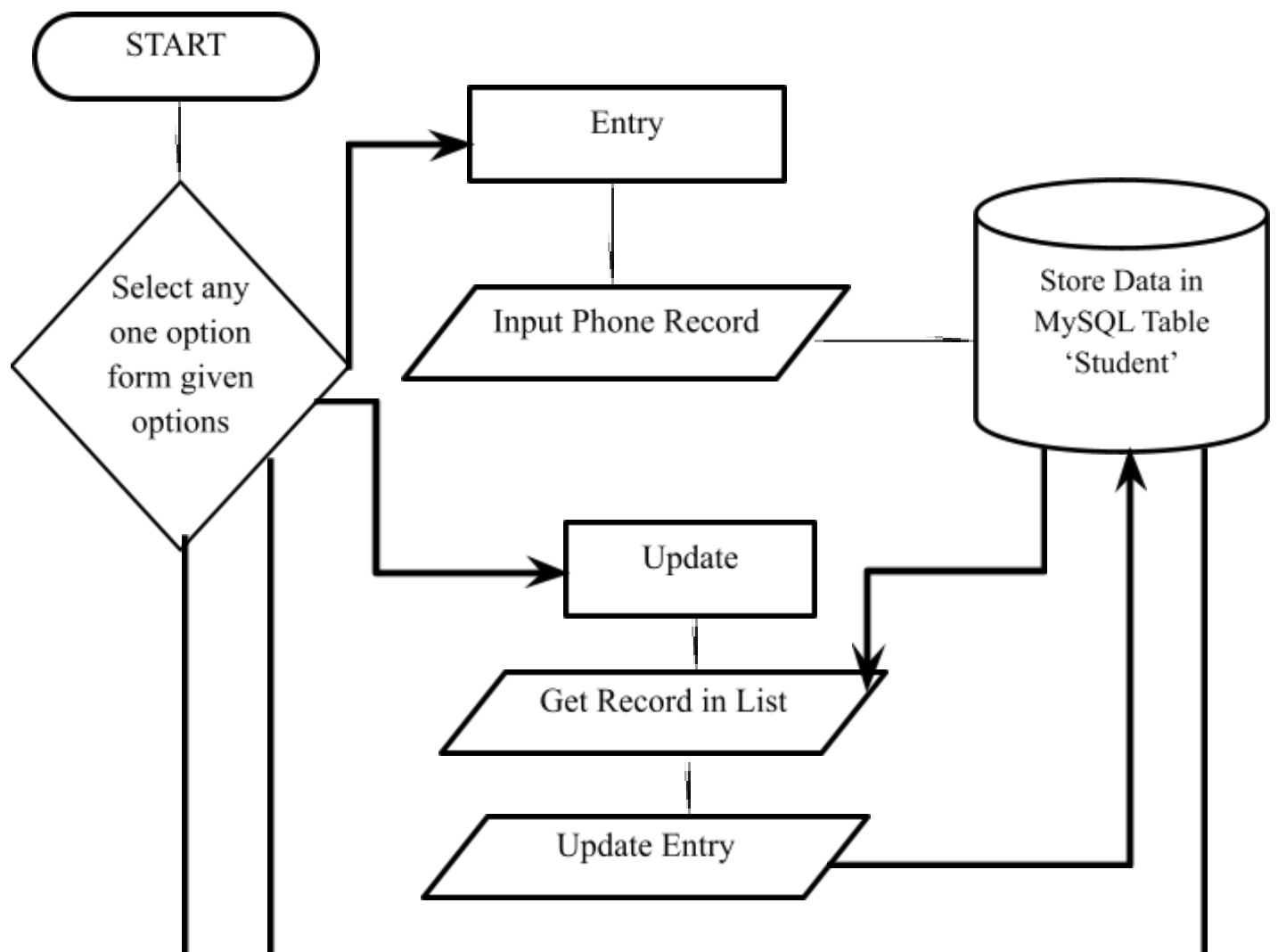
- Add Phone Number
- Update Record
- Search Record
- Delete Record
- Exit

GUI Interface is designed in Python Tkinter.

Screen Layout of Project:



FLOWCHART



PROGRAM CODING

```

from tkinter import *
import tkinter.messagebox as MessageBox
import mysql.connector as mysql

root1=Tk()

def dmenu():

    menubar = Menu(root1)
    root1.title("Student Phone Book")
    root1.geometry("800x600")
    id=Label(root1,text="Project Title: Students Digital Phone Book",font=('Terminal',15,Bold),background="#eeffbb")
    id.place(x=100,y=0)
    tx1=Label(root1,text="Developed in : Python, Tkinter interface",font=('Terminal',12),background="#eeffbb")
    tx2=Label(root1,text="Backend in : MySQL 5.5",font=('Terminal',12),background="#eeffbb")
    tx3=Label(root1,text="Developed By : Saatwik Gosain, Suryansh Bhatnagar",font=('Terminal',12),background="#eeffbb")
    tx4=Label(root1,text="Class XII, K.V. Pilibhit",font=('Terminal',12),background="#eeffbb")
    tx1.place(x=100,y=50)
    tx2.place(x=100,y=100)
    tx3.place(x=100,y=150)
    tx4.place(x=100,y=180)

    stumenu = Menu(menubar, tearoff=0)
    stumenu.add_command(label="Entry",command=display)
  
```

Search

Get ID

Display Record

Delete

Get ID

If found load the record else error

If found delete the record else error

```

stumenu.add_command(label="Update",command=up_date)
stumenu.add_command(label="Delete",command=delete)
stumenu.add_command(label="Search",command=get)
stumenu.add_command(label="Exit Application",command=root1.destroy)
menubar.add_cascade(label="Students Details", menu=stumenu)
root1.config(menu=menubar,background="#eeffbb")
root1.mainloop()

def get():
    def clear():
        e_id.delete(0,'end')
        e_name.delete(0,'end')
        e_phone.delete(0,'end')

    def print_me():
        e_id.delete(0,'end')
        e_name.delete(0,'end')
        e_phone.delete(0,'end')
        items=list.curselection()
        ls=list.get(items).split('|')
        e_id.insert(0,ls[0].strip())
        e_name.insert(0,ls[1].strip())
        e_phone.insert(0,ls[2].strip())

    def show():
        con=mysql.connect(host = "localhost",user = "root",passwd = "dsg",db = "school")
        cursor=con.cursor()
        cursor.execute("select * from Std2020")
        rows=cursor.fetchall()
        list.delete(0,list.size())
        for row in rows:
            insertData=str(row[0]).ljust(10)+ '| ' + row[1].ljust(30)+'| ' +row[2].ljust(15)

```

```

        list.insert(list.size()+1,insertData)
    con.close()
def get1():

    if(e_id.get()==""):
        MessageBox.showinfo("Fetch Status","Id is compolsary for Fetching")
    else:
        con=mysql.connect(host = "localhost",user = "root",passwd = "dsg",db = "school")
        cursor=con.cursor()
        cursor.execute("select * from Std2020 where id='"+e_id.get()+"'")
        rows=cursor.fetchall()
        e_id.delete(0,'end')
        e_name.delete(0,'end')
        e_phone.delete(0,'end')
        for row in rows:
            if row[0]==" ":
                MessageBox.showinfo("Fetch Status","No such value exist")
            else:
                e_id.insert(0,row[0])
                e_name.insert(0,row[1])
                e_phone.insert(0,row[2])

        con.close()

```

```

frame1=Frame(root1,bd=4,relief=RIDGE,bg='#eeffbb')
frame1.place(x=20,y=50,width=650,height=450)

```

```

title=Label(frame1,text="Search Students Info",font=('Comic sans
        MS',15,'bold'),bg='#eeffbb')

```

```

title.place(x=100,y=0)

```

```

id=Label(frame1,text="Enter Id",font=('Comic sans MS',10,'bold'),bg='#eeffbb')

```

```
id.place(x=20,y=40)
```

```
name=Label(frame1,text="Enter Name",font=('Comic sans MS',10,'bold'),bg='#eeffbb')  
name.place(x=20,y=70)
```

```
phone=Label(frame1,text="Enter Phone",font=('Comic sans MS',10,'bold'),bg='#eeffbb')  
phone.place(x=20,y=100)
```

```
e_id=Entry(frame1)  
e_id.place(x=150,y=40)
```

```
e_name=Entry(frame1)  
e_name.place(x=150,y=70)
```

```
e_phone=Entry(frame1)  
e_phone.place(x=150,y=100)
```

```
get11=Button(frame1,text="Search ",font=("Italic",10),bg="white",command=get1)  
get11.place(x=80,y=140)
```

```
show1=Button(frame1,text="Click_List",font=("Italic",10),bg="white",command=print_me)  
show1.place(x=150,y=140)
```

```
clr=Button(frame1,text="Clear",font=("Italic",10),bg="white",command=clear)  
clr.place(x=230,y=140)
```

```
msg=Label(frame1,text="Select record from list and click on \n Click_List Button or Enter Id  
in Text Field \n then click on Show Button",\  
font=('Comic sans MS',9,'bold'),bg='#eeffbb',fg="red")  
msg.place(x=0,y=250)
```

```
list=Listbox(frame1,selectmode=EXTENDED, width=90, height=80)
list.place(x=350,y=40)
show()
```

```
root1.mainloop()
```

```
def delete():
```

```
    def clear():
```

```
        e_id.delete(0,'end')
```

```
        e_name.delete(0,'end')
```

```
        e_phone.delete(0,'end')
```

```
    def print_me():
```

```
        e_id.delete(0,'end')
```

```
        e_name.delete(0,'end')
```

```
        e_phone.delete(0,'end')
```

```
        items=list.curselection()
```

```
        ls=list.get(items).split('|')
```

```
        e_id.insert(0,ls[0].strip())
```

```
        e_name.insert(0,ls[1].strip())
```

```
        e_phone.insert(0,ls[2].strip())
```

```
    def show():
```

```
        con=mysql.connect(host = "localhost",user = "root",passwd = "dsg",db = "school")
```

```
        cursor=con.cursor()
```

```
        cursor.execute("select * from Std2020")
```

```
        rows=cursor.fetchall()
```

```
        list.delete(0,list.size())
```

```
        for row in rows:
```

```
            insertData=str(row[0]).ljust(10)+ ' | ' + row[1].ljust(30)+' | ' +row[2].ljust(15)
```

```
            list.insert(list.size()+1,insertData)
```

```
        con.close()
```

```
def delete1():
```

```

if(e_id.get()==""):
    MessageBox.showinfo("Delete Status","Id is compolsary for delete")
else:
    con=mysql.connect(host = "localhost",user = "root",passwd = "dsg",db = "school")
    cursor=con.cursor()

    cursor.execute("delete from Std2020 where id='"+e_id.get()+"")
    cursor.execute("commit")

    e_id.delete(0,'end')
    e_name.delete(0,'end')
    e_phone.delete(0,'end')
    show()
    MessageBox.showinfo("Delete Status","Deleted Successfully")
    con.close()

frame1=Frame(root1,bd=4,relief=RIDGE,bg='#aabbff')
frame1.place(x=20,y=50,width=650,height=450)
title=Label(frame1,text="Delete Students Info",font=('Comic sans
            MS',15,'bold'),bg='#aabbff')
title.place(x=100,y=0)

id=Label(frame1,text="Enter Id",font=('Comic sans MS',10,'bold'),bg='#aabbff')
id.place(x=20,y=40)

name=Label(frame1,text="Enter Name",font=('Comic sans MS',10,'bold'),bg='#aabbff')
name.place(x=20,y=70)

phone=Label(frame1,text="Enter Phone",font=('Comic sans MS',10,'bold'),bg='#aabbff')
phone.place(x=20,y=100)

e_id=Entry(frame1)

```

```
e_id.place(x=150,y=40)
```

```
e_name=Entry(frame1)
```

```
e_name.place(x=150,y=70)
```

```
e_phone=Entry(frame1)
```

```
e_phone.place(x=150,y=100)
```

```
delete=Button(frame1,text="Delete",font=("Italic",10),bg="white",command=delete1)
```

```
delete.place(x=80,y=140)
```

```
show1=Button(frame1,text="Click_List",font=("Italic",10),bg="white",command=print_me)
```

```
show1.place(x=150,y=140)
```

```
clr=Button(frame1,text="Clear",font=("Italic",10),bg="white",command=clear)
```

```
clr.place(x=230,y=140)
```

```
msg=Label(frame1,text="Select record from list and click on \n Click_List Button to display  
data in text \n fields or Enter Id in Text Field\n then click on Delete Button to delete  
data",
```

```
\
```

```
font=('Comic sans MS',10,'bold'),bg='black',fg="white")
```

```
msg.place(x=0,y=250)
```

```
list=Listbox(frame1,width=100, height=80)
```

```
list.place(x=300,y=40)
```

```
show()
```

```
root1.mainloop()
```

```
def up_date():
```

```
def clear():
```

```
    e_id.delete(0,'end')
```

```
    e_name.delete(0,'end')
```

```
e_phone.delete(0,'end')
```

```
def print_me():
```

```
    e_id.delete(0,'end')
```

```
    e_name.delete(0,'end')
```

```
    e_phone.delete(0,'end')
```

```
    items=list.curselection()
```

```
    ls=list.get(items).split('|')
```

```
    e_id.insert(0,ls[0].strip())
```

```
    e_name.insert(0,ls[1].strip())
```

```
    e_phone.insert(0,ls[2].strip())
```

```
def show():
```

```
    con=mysql.connect(host = "localhost",user = "root",passwd = "dsg",db = "school")
```

```
    cursor=con.cursor()
```

```
    cursor.execute("select * from Std2020")
```

```
    rows=cursor.fetchall()
```

```
    list.delete(0,list.size())
```

```
    for row in rows:
```

```
        insertData=str(row[0]).ljust(10)+ '| ' + row[1].ljust(30)+'| ' +row[2].ljust(15)
```

```
        list.insert(list.size()+1,insertData)
```

```
    con.close()
```

```
def update():
```

```
    id =e_id.get()
```

```
    name=e_name.get()
```

```
    phone=e_phone.get()
```

```
    if (id=="" or name=="" or phone==""):
```

```
        MessageBox.showinfo("Update Status","All fields are required")
```

```
    else:
```

```

con=mysql.connect(host = "localhost",user = "root",passwd = "dsg",db = "school")
cursor=con.cursor()
cursor.execute("Update Std2020 set  name='"+name+"',phone='"+phone+"' where
    id='"+id+"'")
cursor.execute("commit")

e_id.delete(0,'end')
e_name.delete(0,'end')
e_phone.delete(0,'end')
show()
MessageBox.showinfo("Update Status","updated Successfully")
con.close()

frame1=Frame(root1,bd=4,relief=RIDGE,bg='#aaaaff')
frame1.place(x=20,y=50,width=650,height=450)

title=Label(frame1,text="Update Students Info",font=('Comic sans
    MS',15,'bold'),bg='#aaaaff')
title.place(x=100,y=0)
id=Label(frame1,text="Enter Id",font=('Comic sans MS',10,'bold'),bg='#aaaaff')
id.place(x=20,y=40)

name=Label(frame1,text="Enter Name",font=('Comic sans MS',10,'bold'),bg='#aaaaff')
name.place(x=20,y=70)

phone=Label(frame1,text="Enter Phone",font=('Comic sans MS',10,'bold'),bg='#aaaaff')
phone.place(x=20,y=100)

e_id=Entry(frame1)
e_id.place(x=150,y=40)

e_name=Entry(frame1)
e_name.place(x=150,y=70)

```

```
e_phone=Entry(frame1)
e_phone.place(x=150,y=100)
```

```
update=Button(frame1,text="Update",font=("Italic",10),bg="white",command=update)
update.place(x=80,y=140)
```

```
show1=Button(frame1,text="Click_List",font=("Italic",10),bg="white",command=print_me)
show1.place(x=150,y=140)
```

```
clr=Button(frame1,text="Clear",font=("Italic",10),bg="white",command=clear)
clr.place(x=230,y=140)
```

```
msg=Label(frame1,text="Select record from list and click on \n Click_List Button and then
Enter \n new Id or Name or Phone No in \n Text Field(s) then click on Update
Button \n to update Data",
```

```
font=('Comic sans MS',9,'bold'),bg='black',fg="white")
```

```
msg.place(x=0,y=250)
```

```
list=Listbox(frame1,width=100, height=80)
```

```
list.place(x=300,y=40)
```

```
show()
```

```
root1.mainloop()
```

```
def display():
```

```
def clear():
```

```
    e_id.delete(0,'end')
```

```
    e_name.delete(0,'end')
```

```
    e_phone.delete(0,'end')
```

```

def print_me():
    e_id.delete(0,'end')
    e_name.delete(0,'end')
    e_phone.delete(0,'end')
    items=list.curselection()
    ls=list.get(items).split('|')
    e_id.insert(0,ls[0].strip())
    e_name.insert(0,ls[1].strip())
    e_phone.insert(0,ls[2].strip())

def show():
    con=mysql.connect(host = "localhost",user = "root",passwd = "dsg",db = "school")
    cursor=con.cursor()
    cursor.execute("select * from Std2020")
    rows=cursor.fetchall()
    list.delete(0,list.size())
    for row in rows:
        insertData=str(row[0]).ljust(10)+ '| ' + row[1].ljust(30)+'| ' +row[2].ljust(15)
        list.insert(list.size()+1,insertData)
    con.close()

def insert():
    id =e_id.get()
    name=e_name.get()
    phone=e_phone.get()

    if (id=="" or name=="" or phone==""):
        MessageBox.showinfo("Insert Status","All fields are required")
    else:
        con=mysql.connect(host = "localhost",user = "root",passwd = "dsg",db = "school")
        cursor=con.cursor()
        cursor.execute("Insert Into Std2020 values('"+id+"','"+name+"','"+phone+"')")
        cursor.execute("commit")

```

```

e_id.delete(0,'end')
e_name.delete(0,'end')
e_phone.delete(0,'end')
cursor.execute("select * from Std2020")
rows=cursor.fetchall()
list.delete(0,list.size())
for row in rows:
    insertData=str(row[0]).ljust(10)+ ' | ' + row[1].ljust(30)+' | ' +row[2].ljust(15)
    list.insert(list.size()+1,insertData)


MessageBox.showinfo("Insert Status","Inserted Successfully")
con.close()
frame1=Frame(root1,bd=4,relief=RIDGE,bg='#eebbff')
frame1.place(x=20,y=50,width=650,height=450)

title=Label(frame1,text="Enter Students Info",font=('Comic sans
            MS',15,'bold'),bg='#eebbff')
title.place(x=100,y=0)

id=Label(frame1,text="Enter Id",font=('Comic sans MS',10,'bold'),bg='#eebbff')
id.place(x=20,y=40)

name=Label(frame1,text="Enter Name",font=('Comic sans MS',10,'bold'),bg='#eebbff')
name.place(x=20,y=70)

phone=Label(frame1,text="Enter Phone",font=('Comic sans MS',10,'bold'),bg='#eebbff')
phone.place(x=20,y=100)

e_id=Entry(frame1)
e_id.place(x=150,y=40)

```

```
e_name=Entry(frame1)
e_name.place(x=150,y=70)
```

```
e_phone=Entry(frame1)
e_phone.place(x=150,y=100)
```

```
insert=Button(frame1,text="Insert ",font=("Italic",10),bg="white",command=insert)
insert.place(x=120,y=140)
clr=Button(frame1,text="Clear",font=("Italic",10),bg="white",command=clear)
clr.place(x=230,y=140)
```

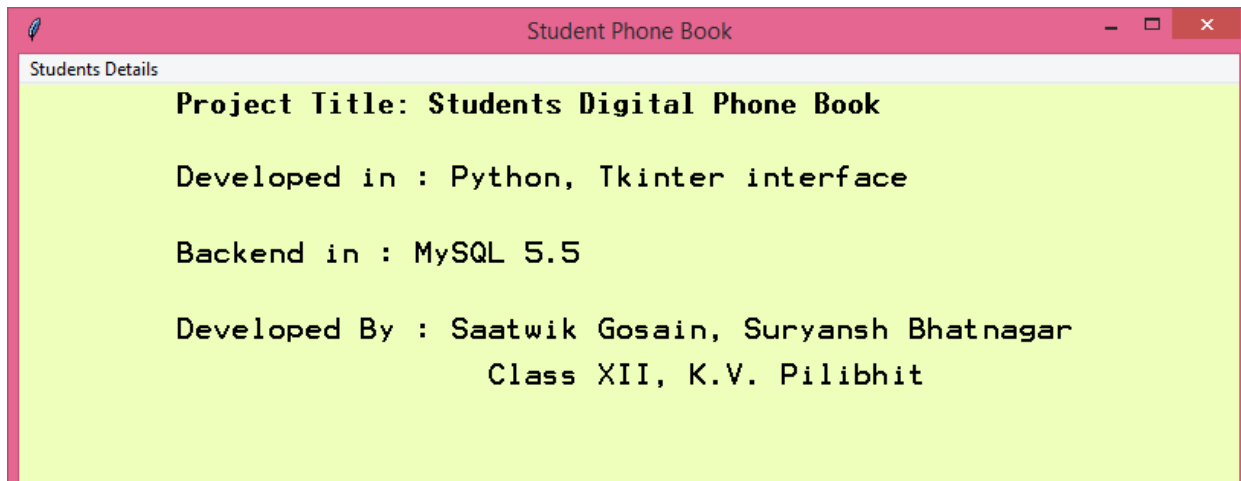
```
list=Listbox(frame1,width=100, height=80)
list.place(x=300,y=40)
show()
```

```
dmenu()
```

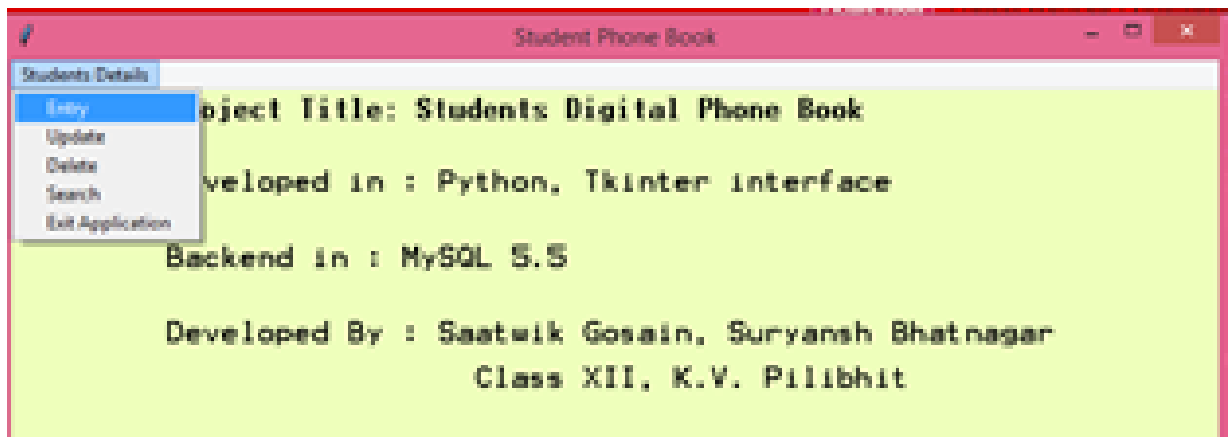
--X--

OUTPUT SCREENS

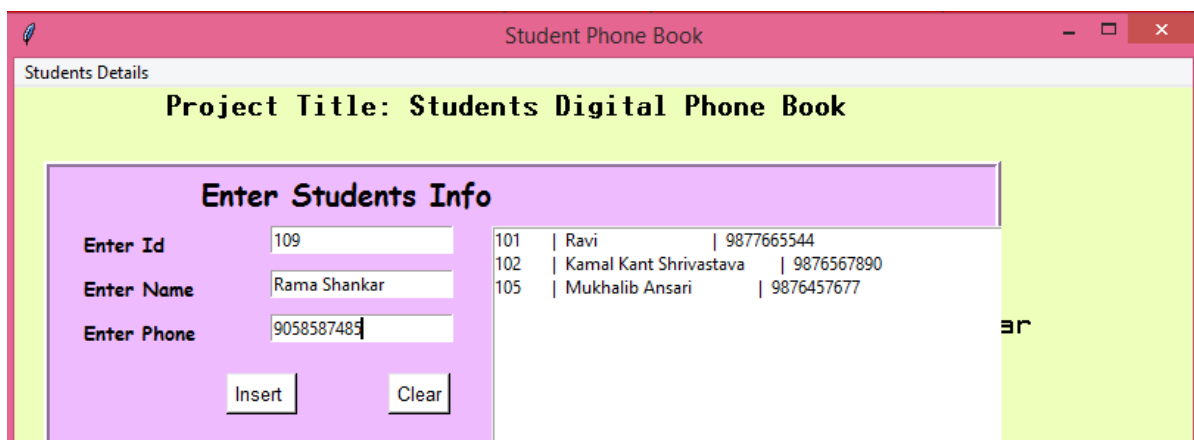
Welcome Screen



Main Menu screen bar



Enter new Student record with phone number



Screen with confirmation message after inserting record

Student Phone Book

Students Details

Project Title: Students Digital Phone Book

Enter Students Info

Enter Id

Enter Name

Enter Phone

Insert

Clear

101	Ravi	9877665544
102	Kamal Kant Shrivastava	9876567890
105	Mukhalib Ansari	9876457677
109	Rama Shankar	9058587485

Insert Status

Inserted Successfully

OK

Update Record Screen

Student Phone Book

Students Details

Project Title: Students Digital Phone Book

Update Students Info

Enter Id

Enter Name

Enter Phone

Update

Click_List

Clear

101	Ravi	9877665544
102	Kamal Kant Shrivastava	9876567890
105	Mukhalib Ansari	9876457677
109	Rama Shankar	9058587485

Select record from list and click on Click_List Button and then Enter new Id or Name or Phone No in Text Field(s) then click on Update Button to update Data

Delete Record Screen

Students Details

Project Title: Students Digital Phone Book

Delete Students Info

Enter Id

Enter Name

Enter Phone

Delete

Click_List

Clear

Select record from list and click on Click_List Button to display data in text fields or Enter Id in Text Field then click on Delete Button to delete data

101		Ravi		9877665544
102		Kamal Kant Shrivastava		9876567890
109		Rama Shankar		9058587485

Delete Status

Deleted Successfully

OK

BIBLIOGRAPHY

This project contains the coding part form some of the web sources and the help provided by our computer sir Sri. Deepak Gosain.

The references of the sources are as follows:

Internet sources:

- <https://www.javatpoint.com>
- www.W3schools.com
- www.dsg-studymaterial.blogspot.com

