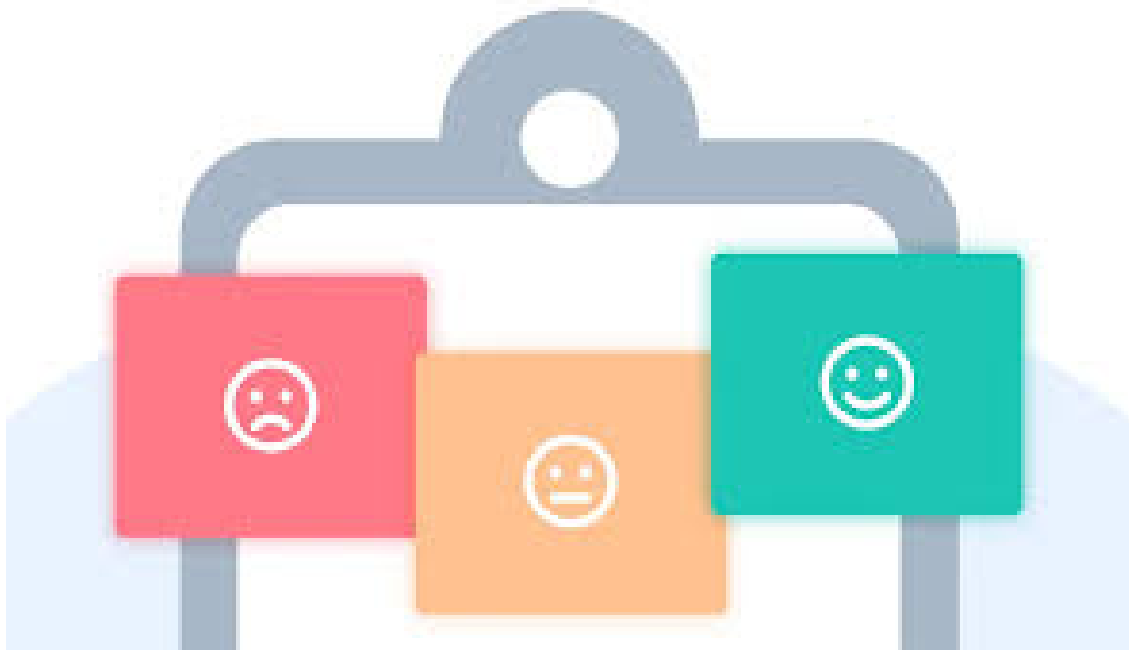# 18CSC207J -

Advanced Programming Practice

Student Feedback

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—

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Aim

Student Feedback is an application where student details, along with their feedback, can be provided. The entered data is collected and saved into a database.

Design

Student Feedback is a python project. The objective of this project is to simplify the process of collecting and storing student information.

Students are provided with fields to enter their Name, Register number, Gender, Department, Age, and Feedback.

After entering their feedback, students also have an option to view the details entered by them. The entered data is accumulated in a database.

Procedure

1. Create a virtual environment to use the latest updated packages in the project
2. Install the following packages in the terminal inside the venv: db-sqlite3, ctypes

Installation

- pip install db-sqlite
- pip install ctypes

Milestones

I. GUI Layout

This Student Feedback System In Python is a simple GUI based application which is very easy to understand and use. It uses the Tkinter module for the GUI.

II. Database Integration

The Python SQLite3 module is used to integrate the SQLite database with Python. It is a standardized Python DBI API 2.0 and provides a straightforward and simple-to-use interface for interacting with SQLite databases.

Source Code:

Creating A Database - create_table.py

```python
1  # this file is intially used to create the db table
2  import sqlite3
3
4  conn = sqlite3.connect("student_feedback.db")
5
6  c = conn.cursor()
7
8  c.execute("""
9                  CREATE TABLE stud_fb (
10                 name text,
11                 reg_no text,
12                 gender text,
13                 dept text,
14                 age integer,
15                 feedback integer
16                 )
17                 """)
18
19 conn.commit()
20 conn.close()
```

Database Working Modules - db_segment.py

```python
1   # This file takes care of all the db integrations
2   import sqlite3
3   import os
4
5   conn = sqlite3.connect("student_feedback.db")
6   c = conn.cursor()
7
8
9 ▾ def insert_db(tuple_values):
10      c.executemany("INSERT INTO stud_fb VALUES (?,?,?,?,?,?)",
            [tuple_values])
11      conn.commit()
```

```python
23 ▾ def print_db():
24 ▾     def screen_clear():
25 ▾         if os.name == 'posix':
26              _ = os.system('clear')
27 ▾         else:  # 'nt'
28              _ = os.system('cls')
29
30      #screen_clear()
31      c.execute("""
32                  SELECT * FROM stud_fb
33                  """)
34
35      tuple_values = c.fetchall()
36      heading = ("Name", "Register Number", "Gender",
37                  "Department", "Age", "Feedback")
38
39
40      print(heading)
41 ▾   for record in tuple_values:
42          print(record)
```
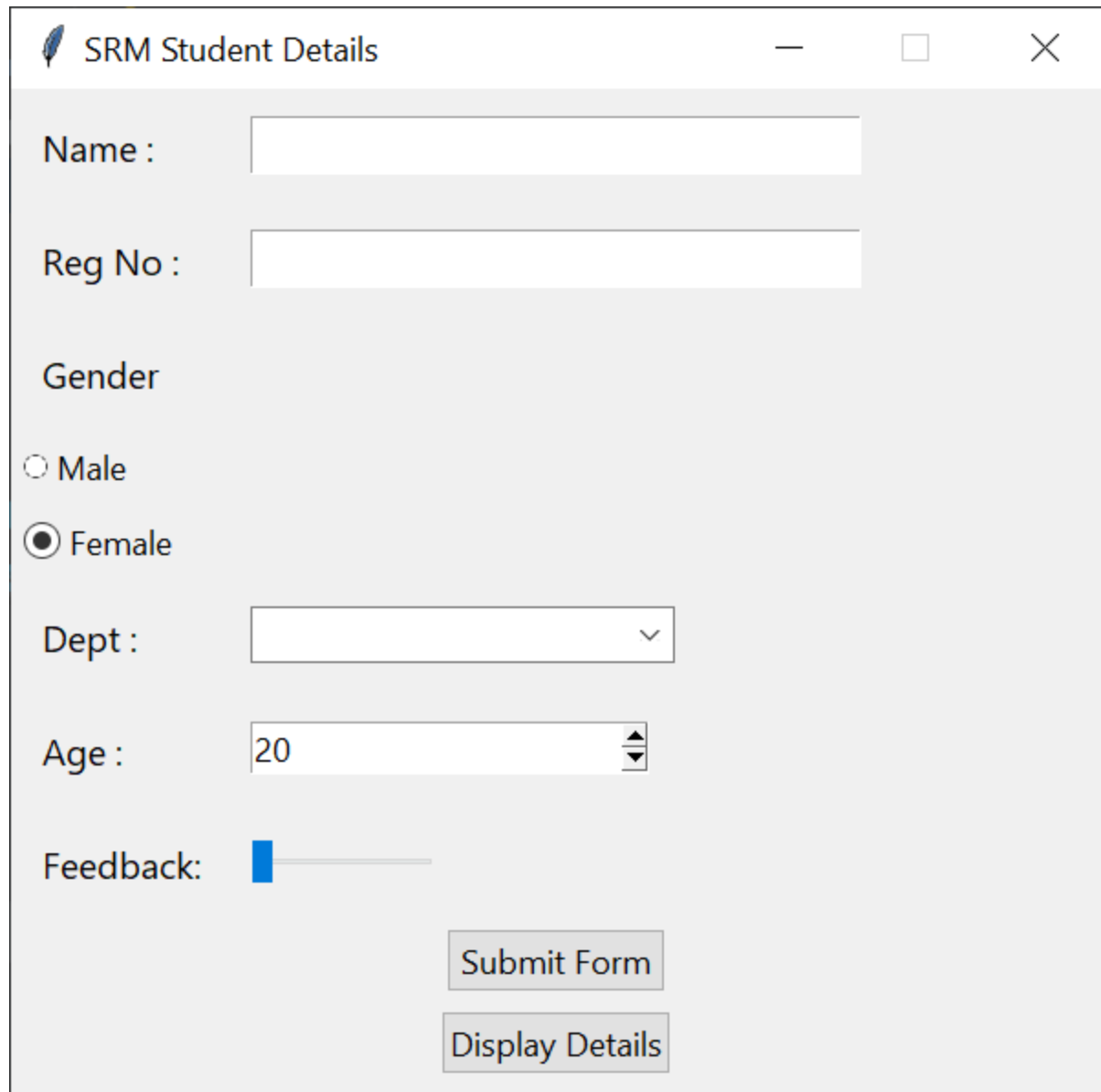
GUI Interface - main.py

```python
1   # This is the main GUI file
2   import tkinter as tk
3   from tkinter import ttk
4
5   import db_segment as db
6
7   SIZE = 10
8   FONT = "Segoe UI"
9
10  try:
11      from ctypes import windll
12
13      windll.shcore.SetProcessDpiAwareness(1)
14  except:
15      pass
16
17  root = tk.Tk()
18  root.geometry("600x550")
19  root.resizable(False, False)
20  root.title("SRM Student Details")
21
```

```python
21
22  name_label = ttk.Label(root, text="Name : ", padding=10)
23  name_label.config(font=(FONT, SIZE))
24  name_label.grid(row=1, column=0, sticky="NW", padx=5, pady=5)
25  name_text = tk.Text(root, height=1, width=30)
26  name_text.config(font=(FONT, SIZE))
27  name_text.grid(row=1, column=1, sticky="E", padx=5, pady=5)
28
29  reg_label = ttk.Label(root, text="Reg No : ", padding=10)
30  reg_label.config(font=(FONT, SIZE))
```

```python
31  reg_label.grid(row=2, column=0, sticky="NW", padx=5, pady=5)
32  reg_text = tk.Text(root, height=1, width=30)
33  reg_text.config(font=(FONT, SIZE))
34  reg_text.grid(row=2, column=1, sticky="E", padx=5, pady=5)
35
36  gender = tk.IntVar()
37  gender_label = ttk.Label(root, text="Gender ", padding=10)
38  gender_label.config(font=(FONT, SIZE))
39  gender_label.grid(row=3, column=0, sticky="NW", padx=5, pady=5)
40  male = ttk.Radiobutton(root, text="Male", variable=gender,
        value=1)
```

```python
41  # male.config(font = (FONT, SIZE))
42  female = ttk.Radiobutton(root, text="Female", variable=gender,
        value=0)
43  # female.config(font = (FONT, SIZE))
44  male.grid(row=4, column=0, sticky="NW", padx=5, pady=5)
45  female.grid(row=5, column=0, sticky="NW", padx=5, pady=5)
46
47  dept_label = ttk.Label(root, text="Dept : ", padding=10)
48  dept_label.config(font=(FONT, SIZE))
49  dept_label.grid(row=6, column=0, sticky="NW", padx=5, pady=5)
50  dept = tk.StringVar()
51  dept_box = ttk.Combobox(root, textvariable=dept)
52  dept_box["values"] = ("CSE AIML", "CSE General", "CSE BDA",
        "CSE CS-BS")
53  dept_box["state"] = "readonly"
54  dept_box.grid(row=6, column=1, sticky="W", padx=5, pady=5)
55
56  age_label = ttk.Label(root, text="Age : ", padding=10)
57  age_label.config(font=(FONT, SIZE))
58  age_label.grid(row=7, column=0, sticky="NW", padx=5, pady=5)
59  age = tk.IntVar(value=20)
```

```python
59  age = tk.IntVar(value=20)
60  age_spinbox = tk.Spinbox(root, from_='15', to=30, textvariable
        =age, wrap=False)
61  age_spinbox.grid(row=7, column=1, sticky="W", padx=5, pady=5)
62
63  feedback_label = ttk.Label(root, text="Feedback: ", padding=10)
64  feedback_label.config(font=(FONT, SIZE))
65  feedback_label.grid(row=8, column=0, sticky="NW", padx=5, pady
        =5)
66  feedback = ttk.Scale(root, orient="horizontal", from_=1, to=5)
67  feedback.grid(row=8, column=1, sticky="W", padx=5, pady=5)
68
69  ok_button = ttk.Button(root, text="Submit Form",
70                  command=lambda:
71                  db.insert_db((name_text.get("1.0", 'end-1c'),
72                  reg_text.get("1.0", 'end-1c'),
73                  gender.get(), dept.get(), age.get(),
74                  feedback.get()))
75                      )
76  ok_button.grid(row=9, column=1, sticky="S", padx=5, pady=5)
77
```

```python
76  ok_button.grid(row=9, column=1, sticky="S", padx=5, pady=5)
77
78  display_button = ttk.Button(root, text="Display Details",
79                              command=lambda: db.print_db())
80  display_button.grid(row=10, column=1, sticky="S", padx=5, pady
        =5)
81
82  root.mainloop()
83
```

Output - Running Main

Working - Upon Clicking the   Submit Form
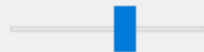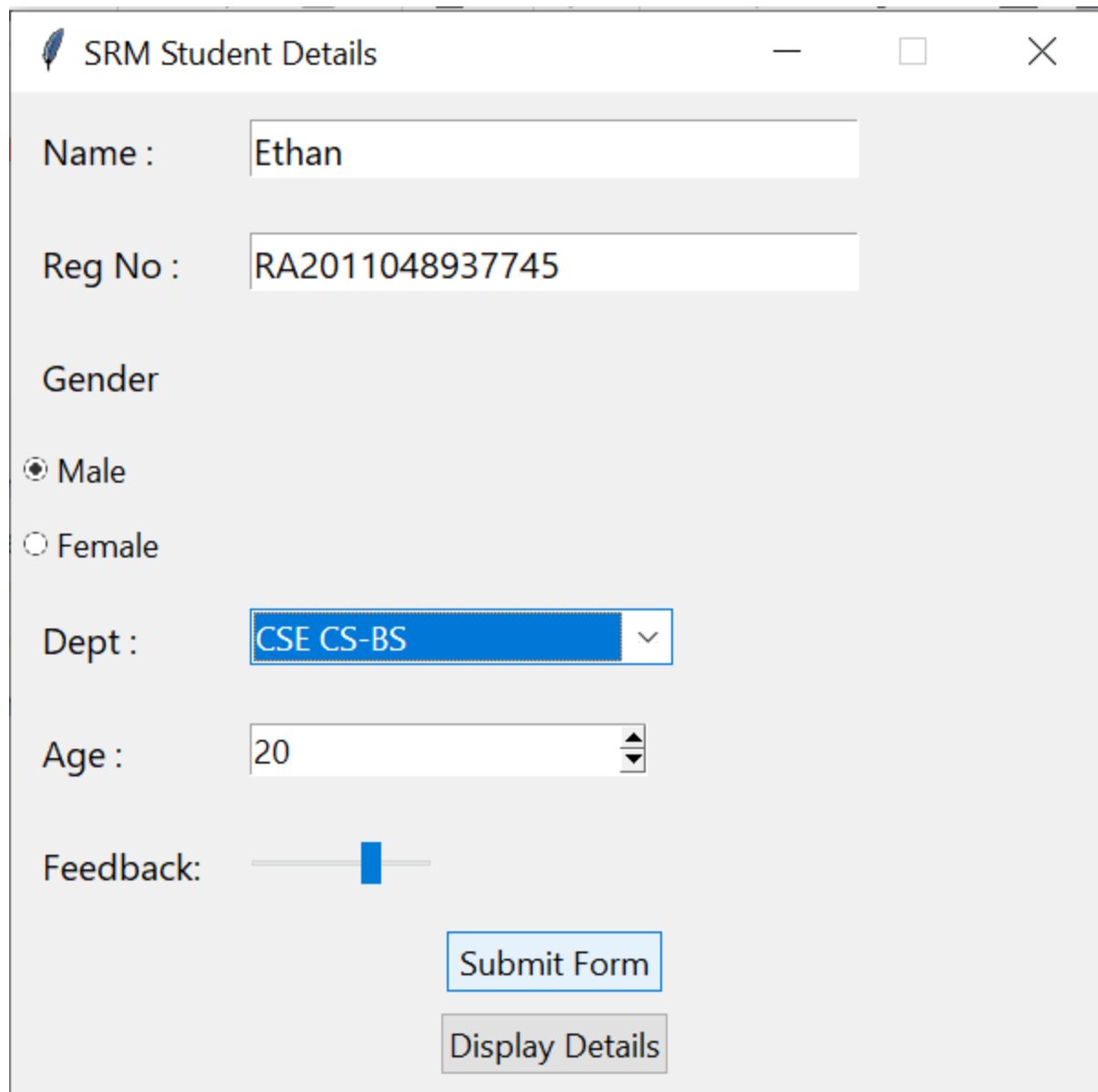
Working - Upon Clicking the Display Details

1) GUI Output

2) Terminal Output

```
main ×

C:\Users\mgrac\Documents\Tkinter\Simple_GUI\venv\Scripts\python.exe C:/Users/r
('Name', 'Register Number', 'Gender', 'Department', 'Age', 'Feedback')
('Grace', 'RA2011026020084', '0', 'CSE General', 20, 5)
('Aishwarya', 'RA2011026020066', '0', 'CSE BDA', 20, 5)
('Amruthaa', 'RA2011026020073', '0', 'CSE General', 20, 5)
('Ethan', 'RA2011048937745', '1', 'CSE CS-BS', 20, 3)
```

3) Full Output

Result

The Student Feedback project has been successfully developed. The GUI has been developed using the Tkinter module and has been integrated with a sqlite3 database.