# **PLACEMENT TRACKING AND ANALYSIS**

-By, Pranav Manjunath Bedre 1NH19CS133 Section C

# **ABSTRACT**

This project is called Placement tracking and analysis. It is made so students could track their placement data such as the number of companies they applied to, got accepted by, or were rejected by. The code first requires the user (authorized teacher should update the database) to enter student details. The details are stored in a table called student\_details in the database. Once the student details is added to said table, the teacher can now update the next table – recruitment\_details. This table, as the name suggests, stores recruitment data of the students.

Once the details have been added, the teacher can view the whole database, or filter through the database by the name and usn of the student he/she wants to view details of. In the queries menu option, there are 4 sub-options: display all student details, display specific student details, display all recruitment details, display specific student details. As the option suggest, the information is displayed in the GUI itself in the form of tables. The widget used to make this possible is – tkinter's treeview widget.

This project is aimed to help teachers keep better track at their student's progress, since every company has 5 rounds and its status specifications will be shown in the database.

**ACKNOWLEDGEMENT** 

The satisfaction and euphoria that accompany the successful completion of any task

would be impossible without the mention of the people who made it possible, whose

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## INTRODUCTION

#### 1.1 PROBLEM DEFINITIONS

Hundreds of students are recruited by an assortment of companies. Build an application that can store information pertaining students' recruitment status such as number of applications submitted, interview rounds cleared in total, number of offer letters received and the package amount, if any, number of students selected by a certain company and students' success rate.

## 1.2 OBJECTIVES

Placement tracker and analysis acts as a portal application for Teachers and students to check on students' progress and provide valuable insights.

The frontend is built with Tkinter, while the backend is connected to SQLite database. It would contain tables with recruitment information. The user can fetch details of a particular student by typing his/her name in the input field in the GUI. Operations that can be carried over by teachers module of the application:

- 1. Add value rows to the table
- 2. Delete information
- 3. Update information such as name and other fields that are allowed to be edited due to security concerns
- 4. Display information according to what the user wants to see. Such as:
  - a. All student details
  - b. Specific Student Details
  - c. All recruitment Details
  - d. Specific Student details

#### 1.3 METHODOLOGY TO BE FOLLOWED

The project database is *SQLite* (tables – student\_details & recruitment\_details). Frontend is *Tkinter*.

Data is entered via the tkinter UI and stores in the database. From here, the user can fetch details pertaining to a specific student, or all students at once. The user can also fetch details from the

recruitment table and view them in a structured manner.

# **REQUIREMENT SPECIFICATIONS**

HARDWARE REQUIREMENTS:

Processor: Intel(R) Core(TM) i3-10110U CPU

Processor Speed: 2.59 GHz

RAM: 8 GB RAM

System type: 64 –bit operating system

Hard disk: 512 GB

**SOFTWARE REQUIREMENTS:** 

Language: Python and Database

Compiler: Any python compiler

# **FUNDAMENTALS OF PYTHON**

## 2.1 INTRODUCTION TO PYTHON

Python is a commonly and extensively used general-purpose, high-level programming language. Guido van Rossum in 1991 was the founder of Python and was later developed by Python Software Foundation. It was primarily designed to emphasize on code readability, and its syntax allows programmers to express ideas in few lines of code. Python can be used for things like:

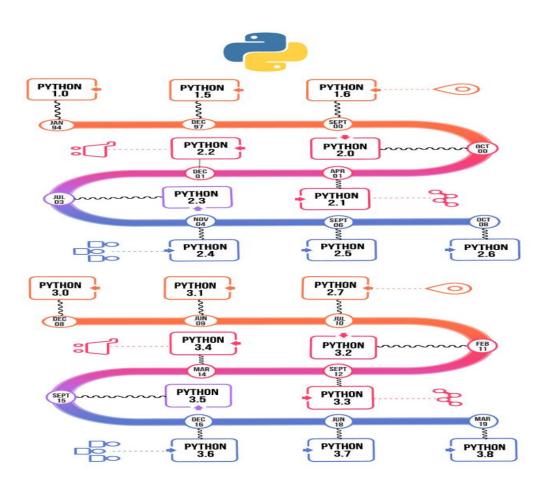


Figure 2.1: Different versions of Python over the years

#### 2.2 ADVANTAGES OF PYTHON

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## **FUNDAMENTALS OF TKINTER**

## 3.1 INTRODUCTION

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most are Python Python interfaces. for Qt

- wxPython
- Among applications for developing used widely are:
- Kivy
- Python used graphical all, Libraries in which the Tkinter available user less creating is GUI Some

#### 3.2 WIDGETS

uses with The various controls the gives users

- MenuBars
- ComboBoxes widgets application by to provided to various interact GUI which
- RadioButtons application others. Tkinter like:
- Labels
- Buttons many
- CheckBoxes among

WIDGETS	DESCRIPTION
Random	one widgets CheckButton different allows buttons a the the to used
	take on but allows a and is text the and widget number menus
	application user to selected
Button	This different widget is select widget in types to widget or arrow image

	widget/frame
Canvas	This holds to is box widget an from layouts is kinds multiline to of the to the allows represent or from be used used as user list which widget scale
Entry	This widget any it
Frame	This used is the options of container. from as text widget select This user contains graphics a widget widget by and add from buttons the allows pictures slider fashion
SpinBox	This which an one of organizes orderly which user options
ComboBox	This toggle single allows like is given select display used used widget number can from used user
CheckButton	This to number provide options.
RadioButton	This create down to to is etc.
Scale	This values
Scrollbar	This the a value contents window/frame
Text	This interface
Menu	This used is to line entry in format to down similar scroll various edit any texts, widget users displays to widget It of draw a input, text of select to to option any of only a

Table 1: Various widgets available in Tkinter

#### **3.3 GEOMETRY MANAGERS**

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#### **CHAPTER 4**

## **FUNDAMENTALS OF DBMS**

#### 4.1 INTRODUCTION

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#### 4.2 CHARACTERISTICS OF A DBMS

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#### 4.3 DATA MODEL

Video provides a powerful way to help you prove your point. When you click Online Video, you can paste in the embed code for the video you want to add. You can also type a keyword to search online for

the video that best fits your document.

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# **FUNDAMENTALS OF SQL**

#### 5.1 INTRODUCTION

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# **DESIGN**

## **6.1 DATABASE STRUCTURE**

The database is managed by SQLite.

Tables are -

- 1. student \_details (stores student details name, USN, phone number, department, semester)
- 2. recruitment\_details (stores recruitment details USN, company ID, company name, eligibility, round 1 status, round 2 status, round 3 status, round 4 status, round 5 status and salary)

in student\_details, USN is primary key while name is primary key in recruitment details. This structure is made to be like this to ensure uniqueness in values in the tables.

## **6.3 FRONTEND DESIGN**

The frontend is created by tkinter. It follows a minimal design with more focus given to the functionality.

# **IMPLEMENTATION**

#### 7.1 ALGORITHM

```
Def connect():
       # establish connection with the database
       Conn = sqlite3.join('database.db')
       Cur = conn.cursor()
       # create 2 tables
       Cur.execute("create table student_details ()")
       Cur.execute("create table recruitment details ()")
       # close database connection
       Call menu function
def menu():
       # establish connection with database again
       R1 = radiobutton
       R2 = radiobutton
       R3 = radiobutton
       If R1:
              insertStudentDetails()
       if R2
              insertRecruitmentDetails()
       elif R3:
              queries()
def insertStudentDetails():
       # establish connection with database
       Usn = Entry()
       sname = Entry()
       sphone = Entry()
       dept = Entry()
       sem = Entry()
```

# get these values and add to the database

```
def insertRecruitmenttDetails():
       # establish connection with database
       Usn = Entry()
       cid = Entry()
       company = Entry()
       eligibility = Entry()
       round 1 = Entry()
       round 2 = Entry()
       round 3 = Entry()
       round 4 = Entry()
       round 5 = Entry()
       # get these values and add to the database
def queries():
       def displayAllStudentDetails():
              # fetch all student details from the database and display using the treeview widget
       def displaySpecificStudentDetails():
              name = Entry()
              # check against database if name entered exists in student_details table. If True, display
              details using the treeview widget
       def displayAllRecruitmentDetails():
              # fetch all student details from the database recruitment details table and display using
              the treeview widget
       def displaySpecificRecruitmentDetails():
              usn = Entry()
              # check against database if name entered exists in recruitment_details table. If True,
              display details using the treeview widget
```

# **RESULTS**

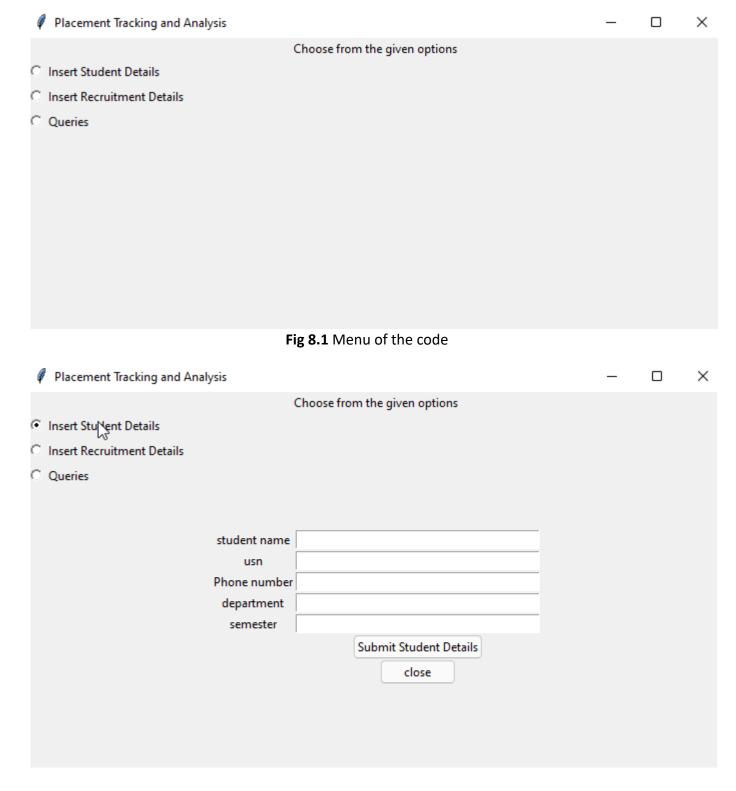


Fig 8.2 Entering student details. This is how to enter a student's details into the database.

	sname	usn	sphone	department	semester	
	Filter	Filter	Filter	Filter	Filter	
1	pranav	1nh19cs133	9113602949	cse	5	5
2	karthik	1nh19cs738	3423442349	cse	7	7
3	vatsan	1nh19cs739	9113604111	ise	8	8
4	hema	1nh19cs100	342342349	ece	6	6
5	pragya	1nh19cs131	8296414084	cse	5	5

Fig 8.3 Data entered previously, is added to the database student\_details

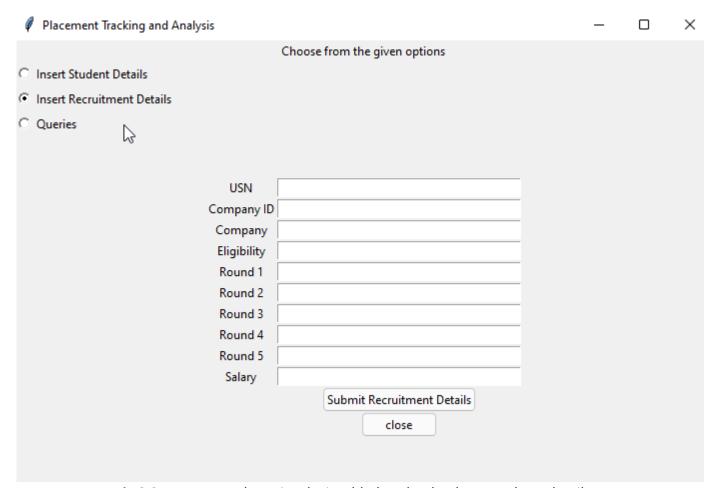


Fig 8.3 Data entered previously, is added to the database student\_details

	usn	cid	company	eligibility	round_1	round_2	round_3	round_4	round_5	salary
	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter
1	1nh19cs133	1	dynamo dat	1	1	1	1	1	1	140000
2	1nh19cs739	2	accenture	1	1	1	√ 1	1	1	100000
3	1nh19cs739	3	capgemini	0	0	0	0	0	0	0
4	1nh19cs738	4	adobe	1	1	1	0	0	0	0
5	1nh19cs133	4	adobe	1	1	1	1	11	1	100000
6	1nh19cs100	3	capgemini	0	0	0	0	0	0	0
7	1nh19cs133	1	dxc	1	1	0	0	0	0	0
8	1nh19cs131	3	capgemini	1	1	0	0	0	0	0
9	1nh19cs729	1	dynamo data	1	1	1	1	1	1	1200000
10	jgjghjgdius234	1	skfidki	1	1	1	1	11	1	10000
11	1nh19cs137	11	vfdfgdg	1	1	1	1	1	1	100000

Fig 8.4 Recruitment details being entered

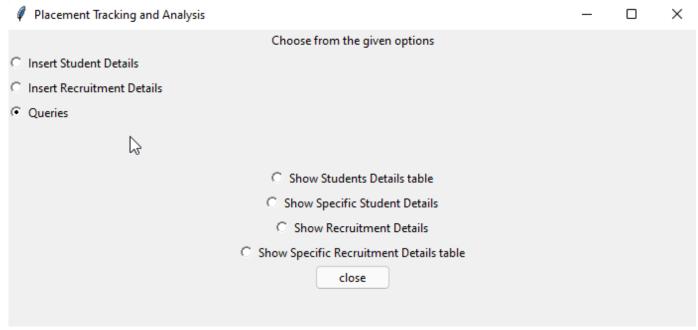
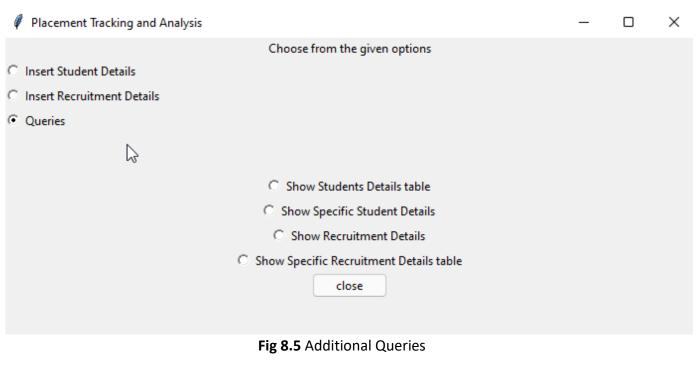
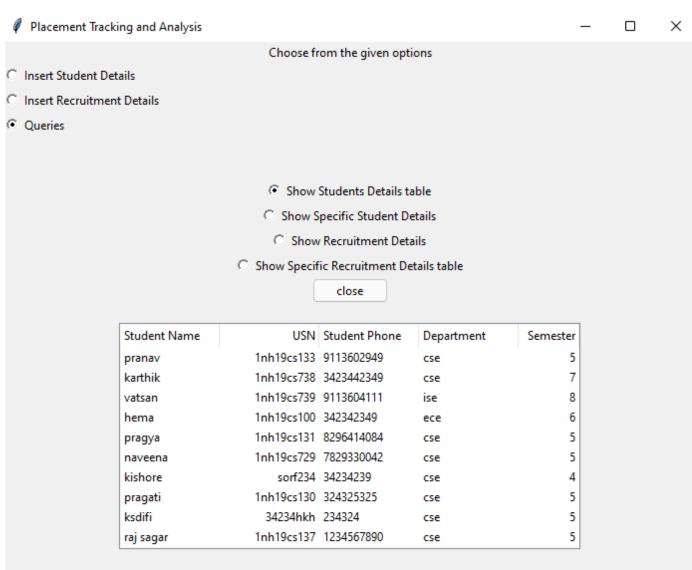


Fig 8.5 Additional Queries





**Fig 8.6** Show Student Details table. This uses the treeView widget in tkinter to fetch values in the sqlite table and display those in a table format to the user.

Placement Tracking and Analysis	_	×
Choose from the given options		
C Insert Student Details		
C Insert Recruitment Details		
© Queries		
Show Students Details table		
<ul> <li>Show Specific Student Details</li> </ul>		
C Show Recruitment Details		
C Show Specific Recruitment Details table		
Enter student name		
pranav		
Submit		

**Fig 8.7** Enter name of student and obtain his/her details in the screen in the form of a table. In this example, the student we want to view details of is Pranav.

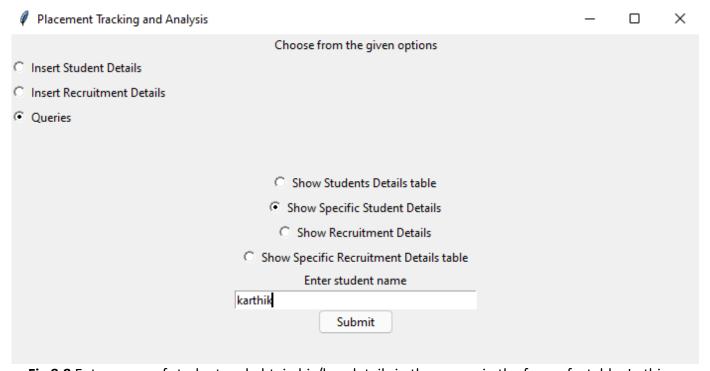


Fig 8.8 Enter name of student and obtain his/her details in the screen in the form of a table. In this example, the student we want to view details of is Pranav.

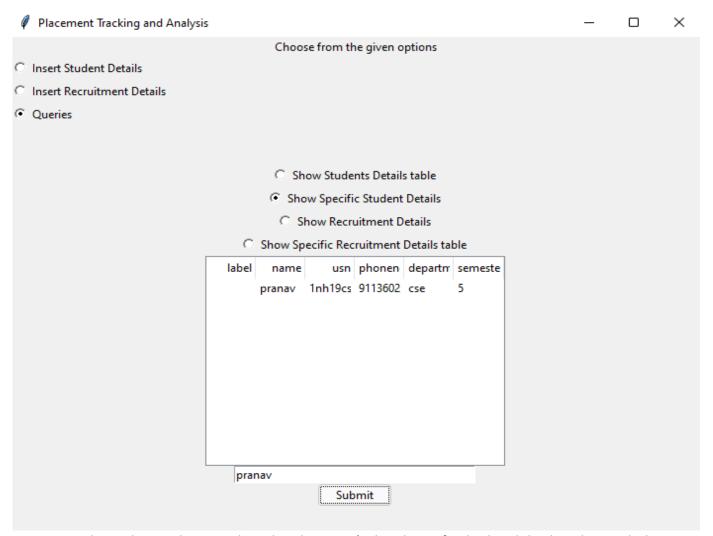


Fig 8.9 This is the resultant student detail. Pranav's details are fetched and displayed in a tabular format using the treeview widget.

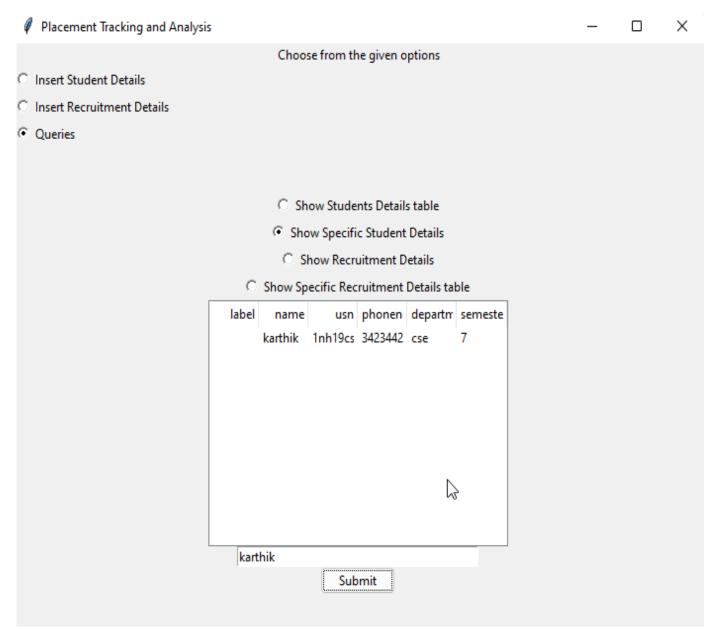
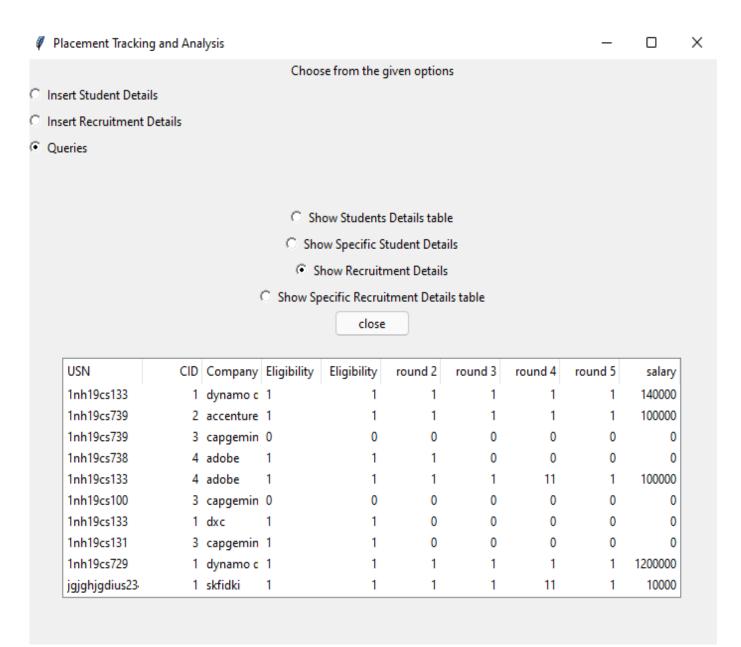
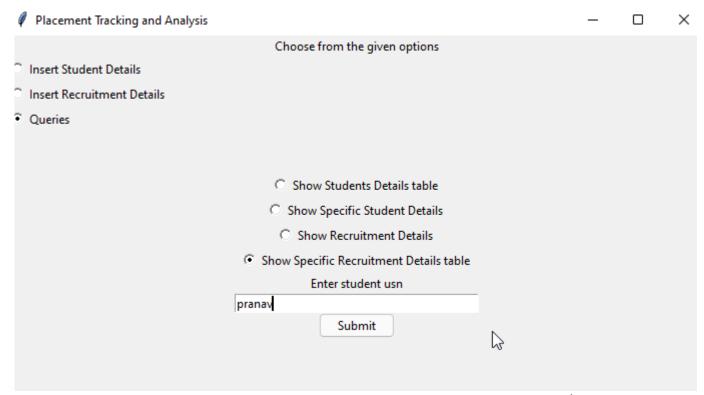


Fig 8.10 This is the resultant student detail. Pranav's details are fetched and displayed in a tabular format using the treeview widget.



**Fig 8.11** This shows the recruitment details of every student. Every student is identified by their unique number (USN). This is the primary key of the table.



**Fig 8.12** This is a functionality where entering the usn of the student will display his/her recruitment details. In this case – it is 1NH19CS133.

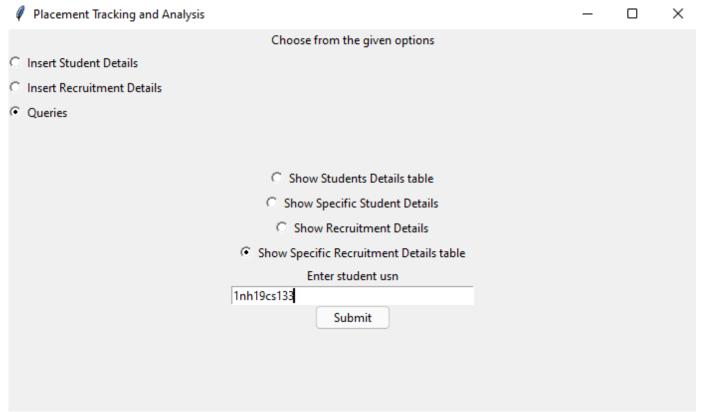


Fig 8.13 This is a functionality where entering the usn of the student will display his/her recruitment details. In this case – it is 1NH19CS133.

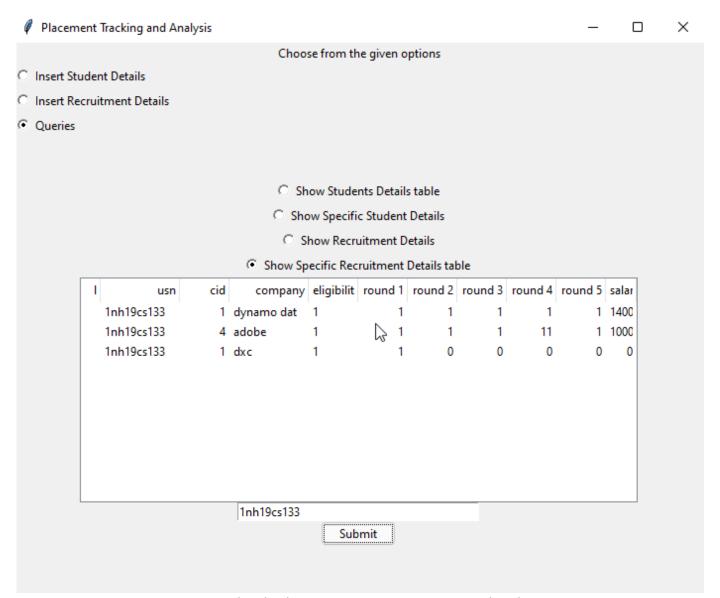


Fig 8.14 This displays 1NH19CS133 recruitment details.

# **CONCLUSION**

This project is aimed to help teachers help the students as efficiently as possible since they will know the student's weak points. Each round's status shows if the student has made it through that round. If he/she hasn't, the teacher can check this and help the student get better at that round.

# **REFERENCES**

python.org geeksforgeeks.org tutorialspoint.com tkdocs.com