

TOPIC :- EMPLOYEE PAYROLL MANAGEMENT SYSTEM.

1. Problem Statement

A company wants to store and maintain the data of its Employee and Employer having different department and project.

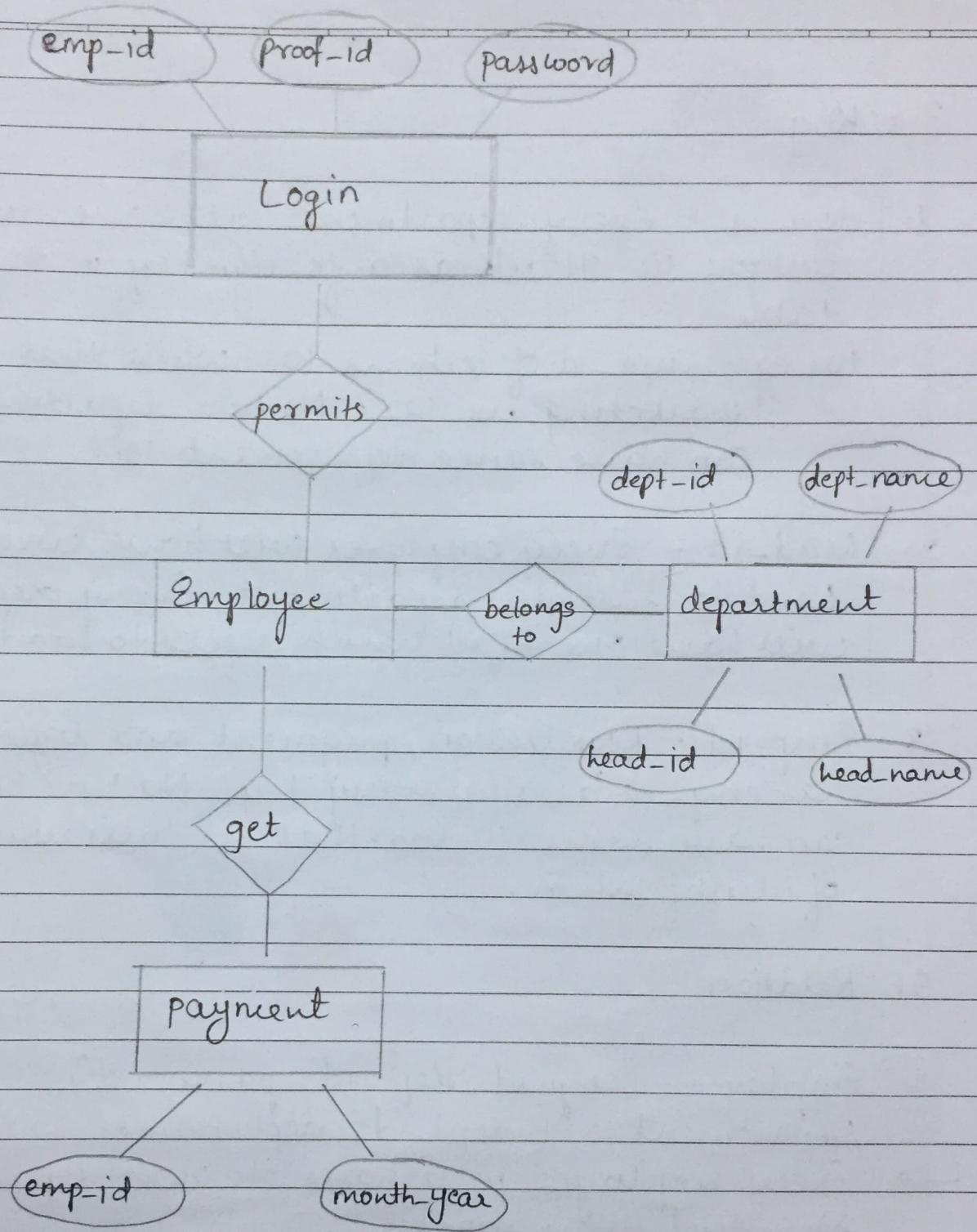
Both Employee and Employer has different level of authorization and access to database.

Do analysis of data like (no.of days present / absent) and calculate salary accordingly.

Create an application that stores and retrieve data effectively and prevent loss of data.

ER Diagram.

2.



3.a Key

1. dept_id - Every department will have its own unique ID. It acts as a foreign key in Registration table.
For eg:- dept_id of tech is 101 while that of Marketing is 102. No two department can have same department ID.
2. head_id - Every employee will have unique head_id just like department. Every department will have one head which refers to head_id.
3. Emp_id - Registration, payment and login table has emp_id as a primary key. No two Employee can have same ID and that is their unique way of identification.

3.b Relation

1. Employee - (emp_id, dept_id, password)
Department - (dept_id, dept_name, head)
→ Every employee will have its own department in which they work.

2. Login - (emp-id, password)
 Register - (emp-id, password, fullName, DOB, phone, DOJ)
3. Employee - (emp-id, name, password, dept-id)
 Payment - (emp-id, month-year)

Every employee will have its own ID by which they can login through company's portal.

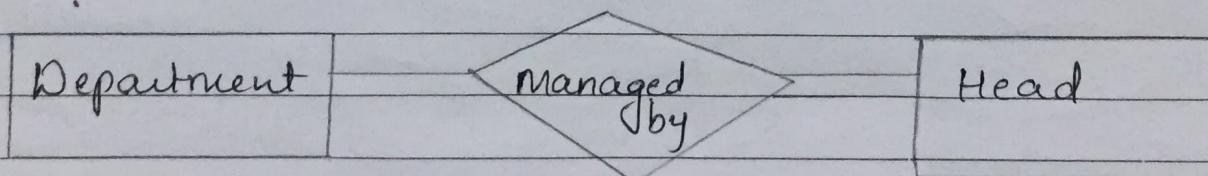
Every employee has different salary according to department, work experience and project.

3.c Participation constraints :-

- i) Total participation - In case of total participation every object in an entity must participate in a relationship.

The total participation is indicated by a dark-line or double line between entity and relationship.

Every department must have a Head.



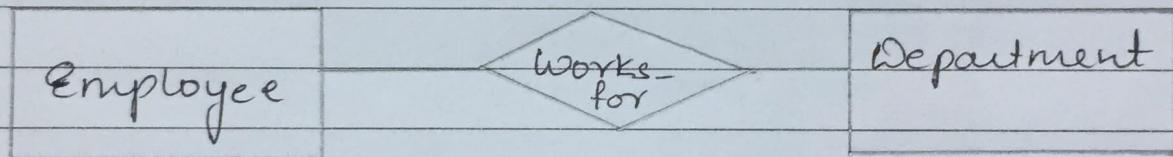
ii) Partial Participation :-

In case of partial participation more than one object in an entity may participate in a relationship.

The total participation is indicated by a single line between entity and relationship.

Employee works for department.

This is a relationship of degree two.
(i.e Binary)



4. Creating tables

1. Department table

```
Run SQL Command Line

SQL*Plus: Release 11.2.0.2.0 Production on Sat May 8 13:25:46 2021

Copyright (c) 1982, 2010, Oracle. All rights reserved.

SQL> conn
Enter user-name: system
Enter password:
Connected.
SQL> Create table Department(
  2  dept_id int primary key,
  3  dept_name varchar(50),
  4  head_id int unique,
  5  head_name varchar(50));

Table created.

SQL>
```

2. Inserting values in department table

```
SQL> insert into department values(10,'Computers', 0001, 'Vidhi Shah');

1 row created.

SQL> insert into department values(20,'I.T.', 0002, 'Mansi Singh');

1 row created.

SQL> insert into department values(30,'Marketing', 0003, 'Shovit Prusty');

1 row created.

SQL>
```

3. Login table

```
SQL*Plus: Release 11.2.0.2.0 Production on Sat May 8 13:43:11 2021
Copyright (c) 1982, 2010, Oracle. All rights reserved.

SQL> conn
Enter user-name: system
Enter password:
Connected.
SQL> Create table Login(
  2  emp_id int primary key,
  3  proof_id int,
  4  password varchar(20));

Table created.

SQL>
```

4. Inserting values in Login table

```
SQL> insert into login values(0001, 111122223333, 'woahvidhi');

1 row created.

SQL> insert into login values(0002, 111122221111, 'pagalriyu');

1 row created.

SQL> insert into login values(0003, 111122224444, 'vroomcars');

1 row created.

SQL>
```

5. Creating payment table

```
SQL> Create table Payment(
 2  emp_id int primary key,
 3  month_year varchar(50));
```

```
Table created.
```

```
SQL>
```

6. Creating registration table

SQL Run SQL Command Line

```
SQL*Plus: Release 11.2.0.2.0 Production on Sat May 8 13:41:14 2021
```

```
Copyright (c) 1982, 2010, Oracle. All rights reserved.
```

```
SQL> conn
```

```
Enter user-name: system
```

```
Enter password:
```

```
Connected.
```

```
SQL> Create table Register(
 2  emp_id int primary key,
 3  first_name varchar(20),
 4  last_name varchar(20),
 5  dept_id int,
 6  password varchar(20),
 7  DOB date,
 8  DOJ date,
 9  phone_no int,
10  age int,
11  exp varchar(20),
12  proof_id int,
13  email_id varchar(60),
14  gender varchar(15),
15  des varchar(50),
16  address varchar(100),
17  country varchar(20),
18  foreign key(dept_id) references Department(dept_id));
```

```
Table created.
```

7. Inserting values in Registration table

```
SQL> insert into register values(0001, 'Vidhi', 'Shah', 10, 'woahvidhi',
  2  '26-FEB-2001', '1-JAN-2021', 1234567890, 20, '2 years', 111122223333,
  3  'sendituphere@gmail.com', 'Female', 'department head', 'Andheri',
  4  'India');

1 row created.

SQL> insert into register values(0002, 'Mansi', 'Singh', 20, 'pagalriyu',
  2  '02-MAY-2001', '3-DEC-2020', 1234567891, 20, '3 years', 111122221111,
  3  'always.sleeping@gmail.com', 'Female', 'department head', 'Jogeshwari',
  4  'India');

1 row created.

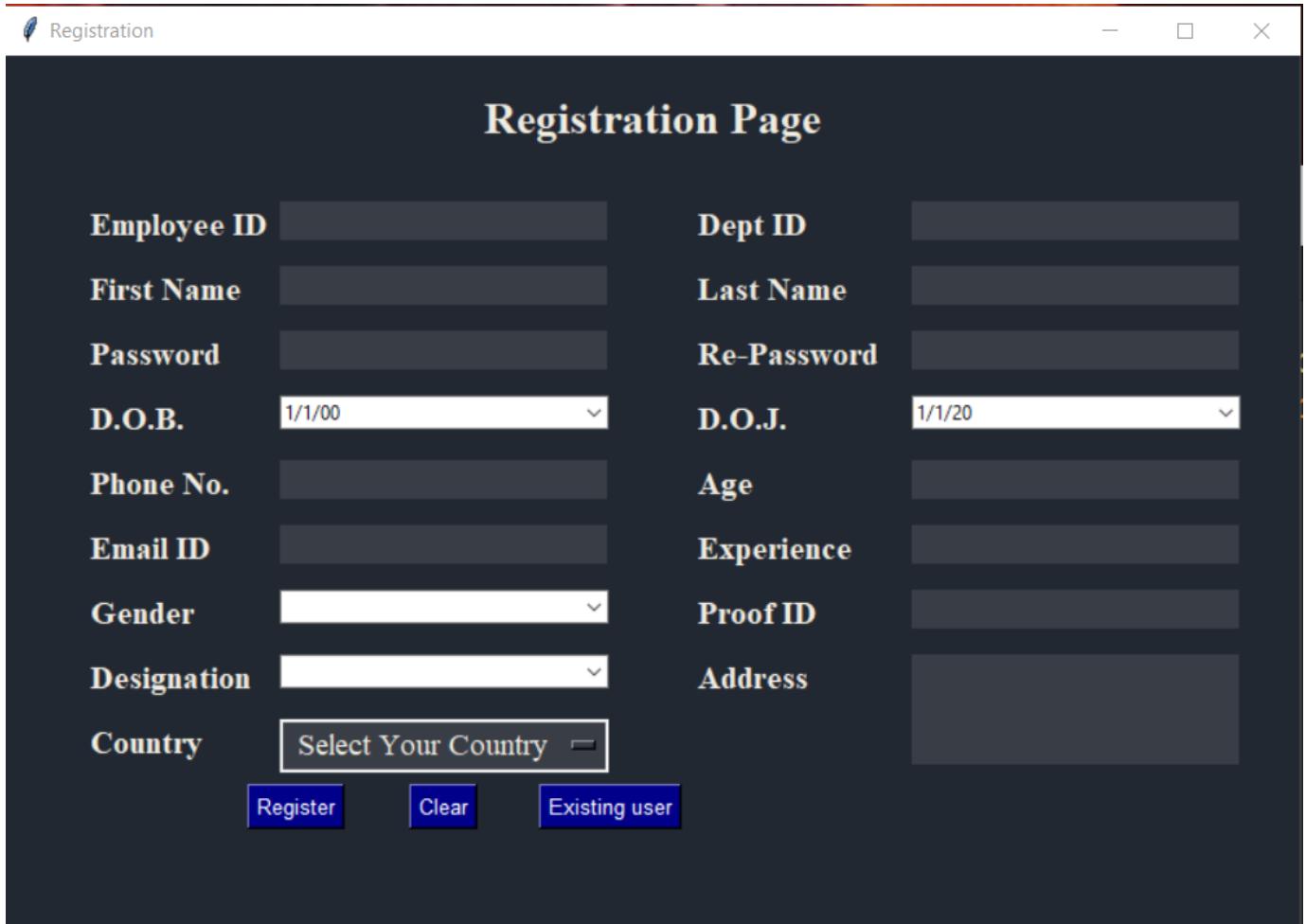
SQL> insert into register values(0003, 'Shovit', 'Prusty', 30, 'vroomcars',
  2  '01-MAY-2000', '13-NOV-2020', 1234567893, 21, '5 years', 111122224444,
  3  'therealnaruto@gmail.com', 'Male', 'department head', 'Borivali',
  4  'India');

1 row created.

SQL>
```

5. Screenshots of GUI (Final Output)

1. Registration Screen



The screenshot shows a Windows application window titled "Registration". The main title of the form is "Registration Page". The form contains the following fields:

Employee ID		Dept ID	
First Name		Last Name	
Password		Re-Password	
D.O.B.	1/1/00	D.O.J.	1/1/20
Phone No.		Age	
Email ID		Experience	
Gender		Proof ID	
Designation		Address	
Country	Select Your Country		

At the bottom of the form are three buttons: "Register", "Clear", and "Existing user".

2. Register your employee

Registration

Registration Page

Employee ID	20001	Dept ID	30
First Name	David	Last Name	Rodrigues
Password	****	Re-Password	****
D.O.B.	1999-02-26	D.O.J.	2021-02-17
Phone No.	9972122345	Age	22
Email ID	dumbboi@gmail.com	Experience	5 years
Gender	Male	Proof ID	111122223333
Designation	Project Manager	Address	Andheri
Country	India		

Register **Clear** **Existing user**

3. Make sure all the inputs are correctly filled else your registration fails.

Registration

Registration Page

Employee ID	20001	Dept ID	30
First Name	David	Last Name	Rodrigues
Password	****	Re-Password	****
D.O.B.	1999-01-01	D.O.J.	2021-02-17
Phone No.	9972345678	Age	22
Email ID	dum...@gmail.com	Experience	5 years
Gender	Male	Proof ID	111122223333
Designation	Project Manager	Address	Andheri
Country	India		

Error

Only 10 digits are allowed

OK

Register **Clear** **Existing user**

The screenshot shows a Windows application window titled "Registration". The main title bar also displays "Registration". The window has a dark theme. Inside, there's a heading "Registration Page". Below it is a form with various input fields. An error dialog box is overlaid on the "Phone No." field, which contains "9972345678". The dialog box says "Error" and "Only 10 digits are allowed" with an "OK" button. The other fields in the form include "Employee ID" (20001), "First Name" (David), "Last Name" (Rodrigues), "Password" (****), "Re-Password" (****), "D.O.B." (1999-01-01), "D.O.J." (2021-02-17), "Email ID" (dum...@gmail.com), "Experience" (5 years), "Gender" (Male), "Proof ID" (111122223333), "Designation" (Project Manager), "Address" (Andheri), and "Country" (India). At the bottom are three buttons: "Register", "Clear", and "Existing user".

Registration Page

Employee ID 20001**Dept ID**

30

First Name David**Last Name**

Rodrigues

Password ******Re-Password** ******D.O.B.**

1999-02-2

2021-02-17

Phone No. 99721**Age**

22

Email ID dumbb**Experience**

5 years

Gender Male**Proof ID**

111122223333

Designation Project Manager**Address**

Andheri

Country

India

Register**Clear****Existing user**

4. After successful registration you'll get the message that your record has been inserted.

Registration

Registration Page

Employee ID	20001	Dept ID	30
First Name	David	Last Name	Rodrigues
Password	****	Re-Password	****
D.O.B.	1999-02-20	D.O.J.	2021-02-17
Phone No.	997212	Age	22
Email ID	dumbbo	Experience	5 years
Gender	Male	Proof ID	111122223333
Designation	Project Manager	Address	Andheri
Country	India		

Success
1 record inserted
OK

Register Clear Existing user

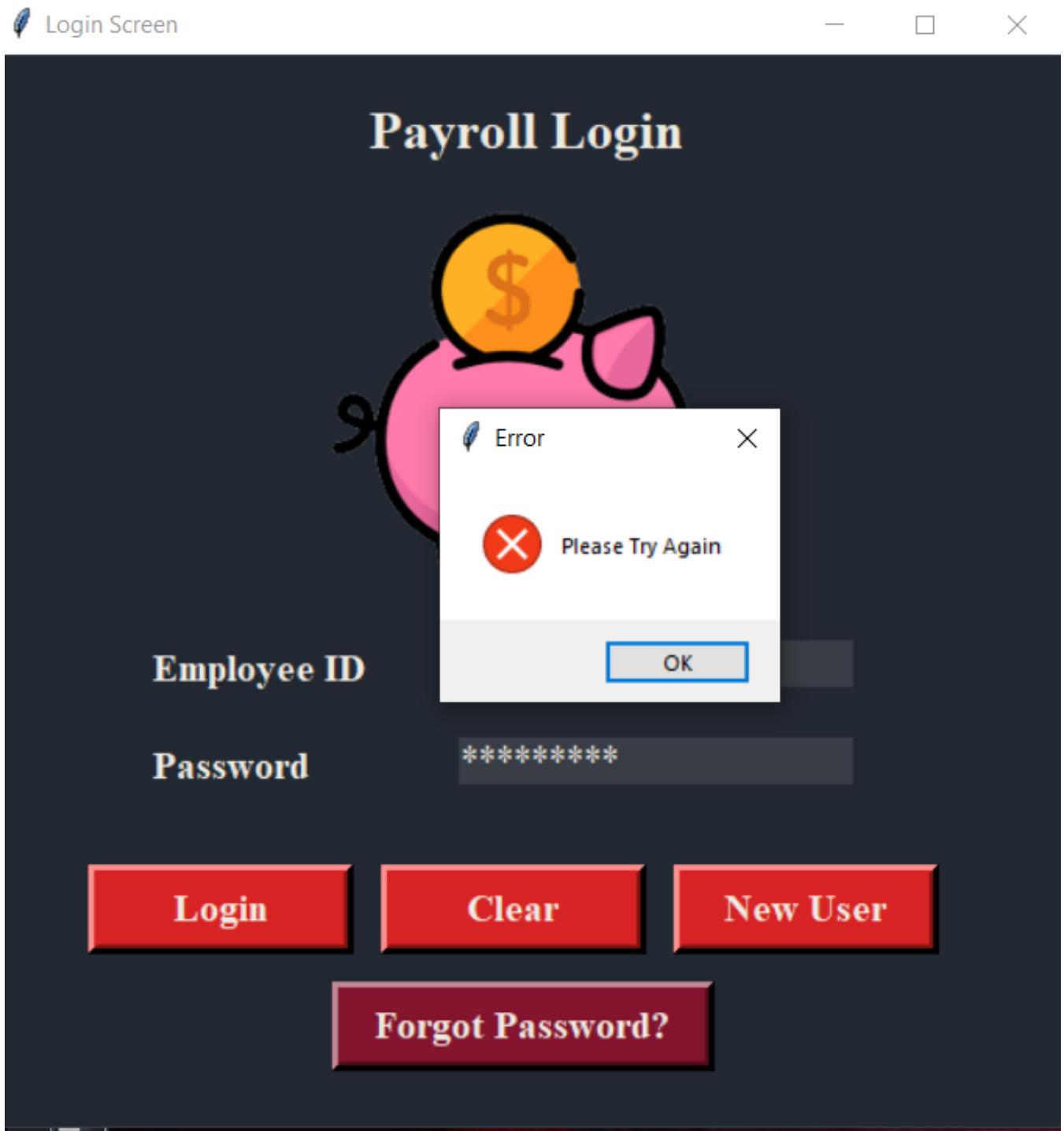
5. Now go to Login page



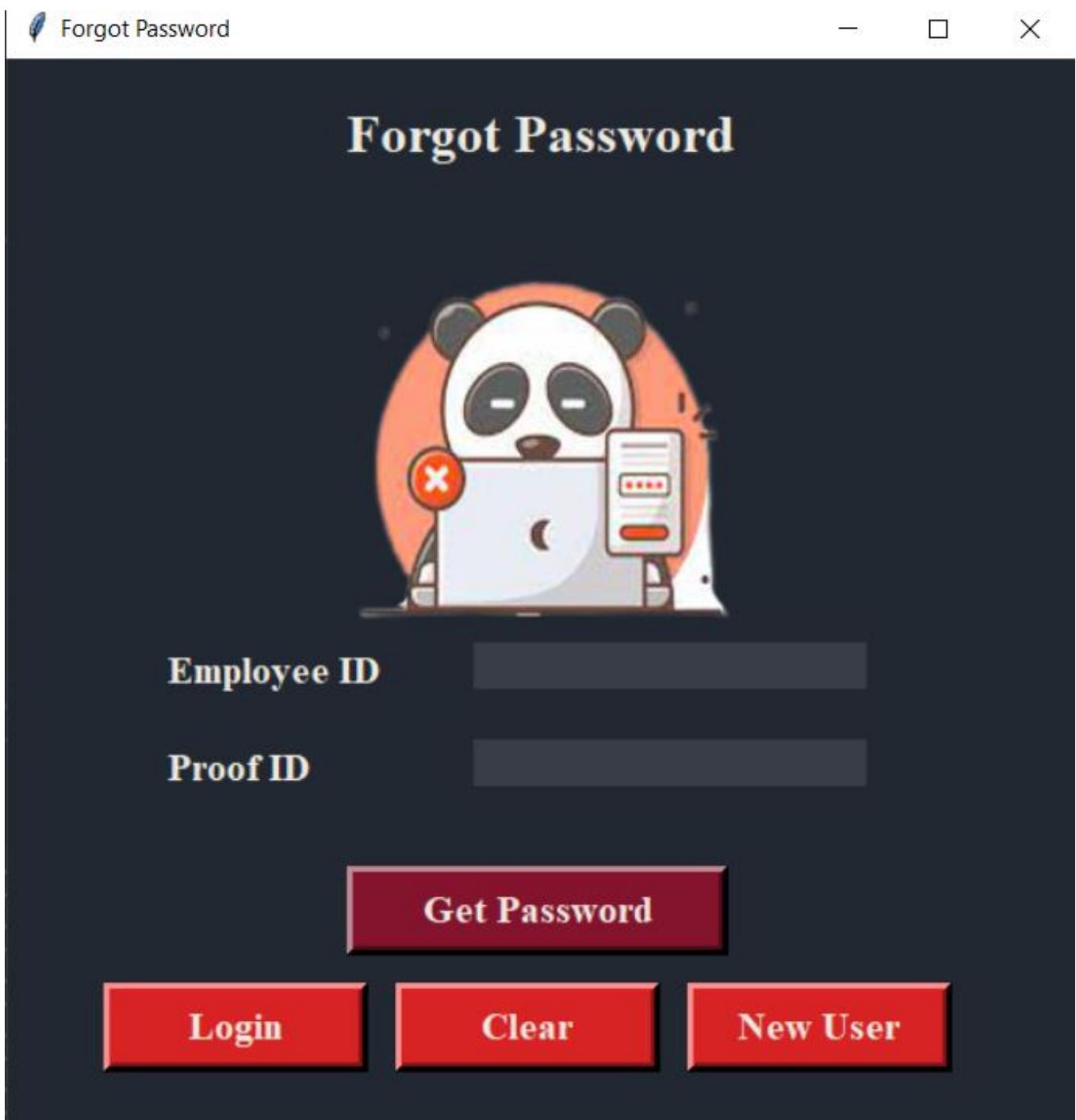
6. Enter your Login credentials.



7. Make sure all your credentials are correct else Login fails



8. In case you have forgotten your Login password, click on forgot password.



9. Enter your Emp ID and proof ID

 [Forgot Password](#)



Forgot Password



Employee ID 10002

Proof ID 111122221111

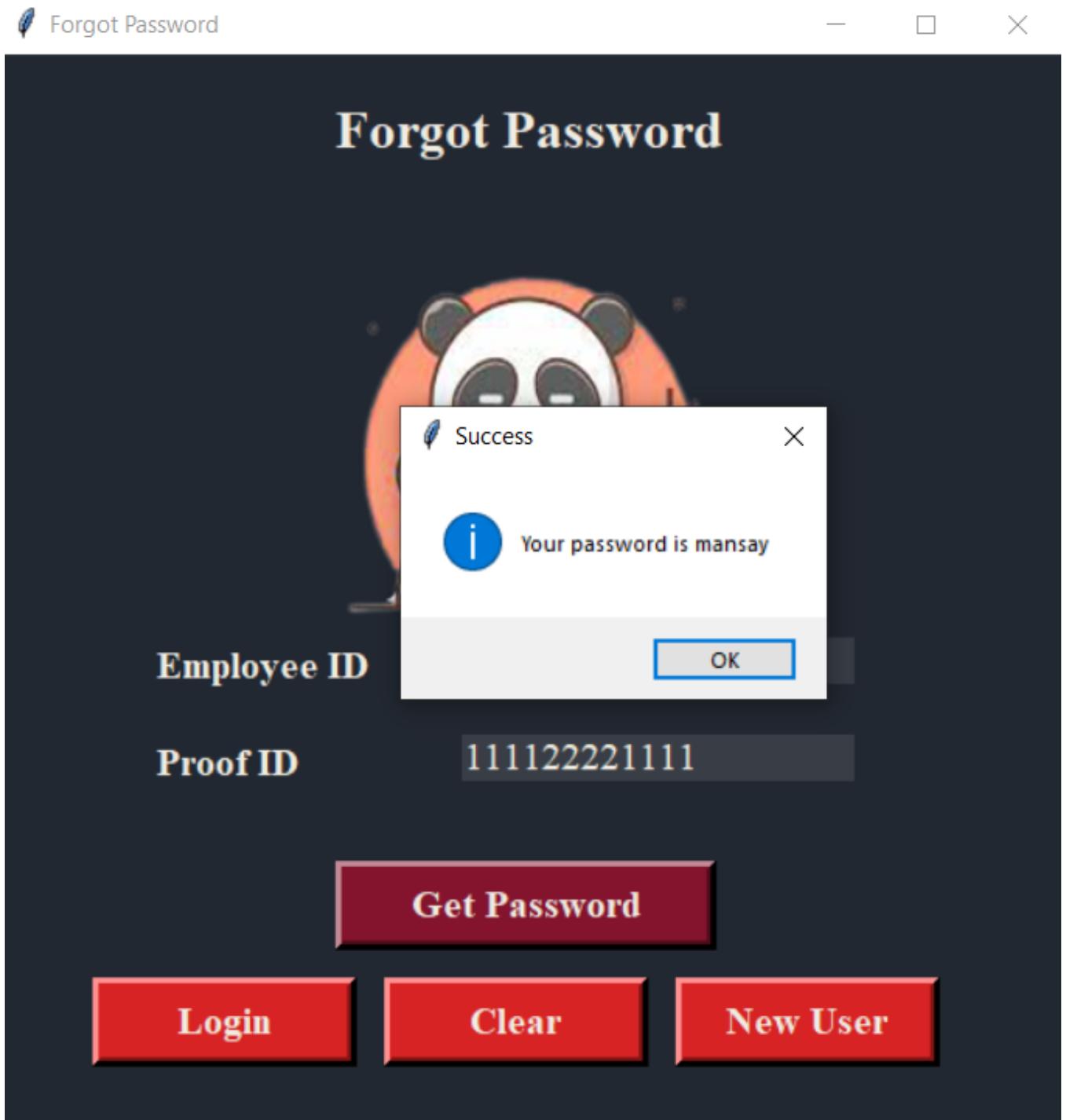
Get Password

Login

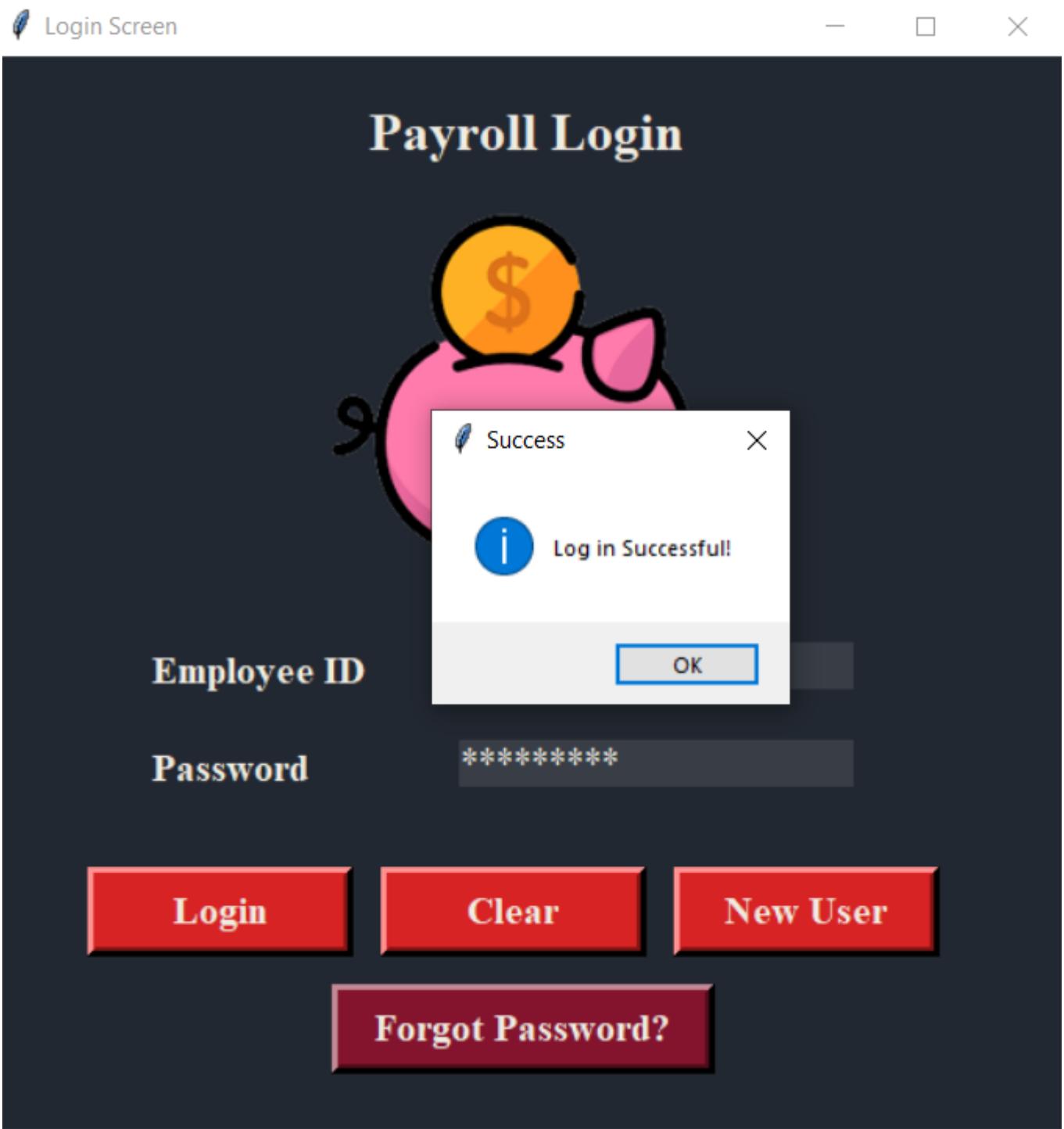
Clear

New User

10. Make sure all your credentials are correct and click on get password.



11. After successful login, you'll see a dashboard.



Employee Management

Employee Management System

Employee Information		Work Information		
Employee ID	<input type="button" value="Search"/>	Month	<input type="button" value="Year"/>	Salary
First Name	Dept ID	Total Days	Absent	Medical
Gender	Last Name	Bonus	Conveyance	PT
Experience	Phone No.	Net Salary	<input type="button" value="Clear"/>	<input type="button" value="Save"/>
Age	D.O.B.	<input type="button" value="Calculate"/>	<input type="button" value="Update"/>	<input type="button" value="Delete"/>
Email ID	D.O.J	<input type="button" value="Download Receipt"/>		<input type="button" value="Log Out"/>
Address	Proof ID			

Employee Status				Receipt																
<table border="1"><tr><td>1</td><td>2</td><td>3</td><td>.</td></tr><tr><td>4</td><td>5</td><td>6</td><td>-</td></tr><tr><td>7</td><td>8</td><td>9</td><td>*</td></tr><tr><td>0</td><td><input type="button" value="Clear"/></td><td>=</td><td>/</td></tr></table>				1	2	3	.	4	5	6	-	7	8	9	*	0	<input type="button" value="Clear"/>	=	/	<input type="text"/>
1	2	3	.																	
4	5	6	-																	
7	8	9	*																	
0	<input type="button" value="Clear"/>	=	/																	

12. Enter the Employee ID you wish to calculate salary for and click on Search button.

The screenshot displays the Employee Management System interface. It consists of four main panels:

- Employee Information**: A panel containing fields for Employee ID (10001), First Name (Vidhi), Gender (Female), Experience (5 years), Age (20), Email ID (sendituphere@gmail.com), Address (Andheri), Dept ID (10), Last Name (Shah), Phone No. (1234567891), D.O.B. (2001-02-26), D.O.J (2020-11-20), and Proof ID (111122223333). A red "Search" button is located at the top right of this panel.
- Work Information**: A panel containing dropdown menus for Month and Year, and input fields for Total Days, Absent, Medical, Bonus, Conveyance, PT, and Net Salary. It includes buttons for Clear, Save, Calculate, Update, Delete, Download Receipt, and Log Out.
- Employee Status**: A panel showing the Month (March 2019) and Net Salary (980.0).
- Receipt**: A panel featuring a numeric keypad with digits 1-9, 0, Clear, and operators +, -, *, /, and a decimal point .

13. Calculate the salary for a given Employee

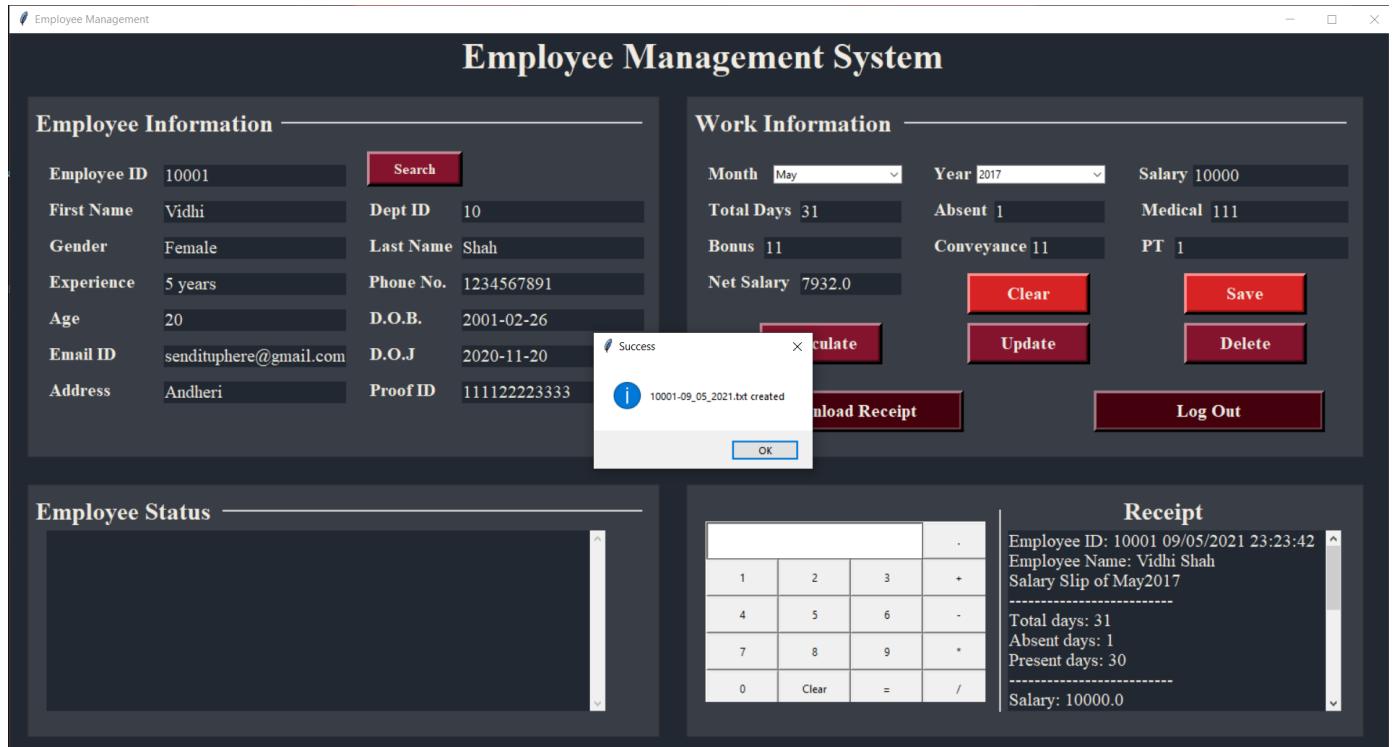
The screenshot displays the Employee Management System interface with the following sections:

- Employee Information:** Contains fields for Employee ID (10001), First Name (Vidhi), Gender (Female), Experience (5 years), Age (20), Email ID (sendituphere@gmail.com), Address (Andheri), Dept ID (10), Last Name (Shah), Phone No. (1234567891), D.O.B. (2001-02-26), D.O.J (2020-11-20), and Proof ID (111122223333). A red "Search" button is located above the department and last name fields.
- Work Information:** Contains dropdowns for Month (May) and Year (2017), and input fields for Salary (10000), Total Days (31), Absent (1), Bonus (11), Conveyance (11), Net Salary (7932.0), and Medical (111). Buttons for Clear, Save, Update, Delete, and Log Out are present, along with a "Calculate" button.
- Employee Status:** Shows Month (October 2016) and Net Salary (97222.0).
- Receipt:** Displays the calculation details for the salary slip of May 2017. It includes the employee's ID and name, total days (31), absent days (1), present days (30), and a final salary of 10000.00.

14. After calculating the salary, click on Save button so as to save your calculations.

The screenshot shows the Employee Management System interface. In the 'Work Information' section, the 'Month' dropdown is set to 'October', 'Year' to '2016', and 'Salary' to '100000'. The 'Total Days' is '31', 'Absent' is '1', and 'Medical' is '10000'. The 'Bonus' is '10000', 'Conveyance' is '1222', and 'PT' is '2000'. The 'Net Salary' is '97222.0'. A modal dialog box titled 'Success' displays the message '1 record inserted' with an 'OK' button. Below the modal are buttons for 'Calculate', 'Update', and 'Delete'. To the right are 'Save' and 'Log Out' buttons. On the left, there's a 'Employee Information' section with fields like Employee ID (10001), First Name (Vidhi), Gender (Female), Experience (5 years), Age (20), Email ID (sendituphere@gmail.com), Address (Andheri), Dept ID (10), Last Name (Shah), Phone No. (1234567891), D.O.B. (2001-02-26), D.O.J. (2020-11-20), Proof ID (111122223333), and a 'Search' button. At the bottom right, there's a 'Receipt' section with details: Employee ID: 10001, Date: 09/05/2021 23:15:48, Employee Name: Vidhi Shah, and a summary of days and salary.

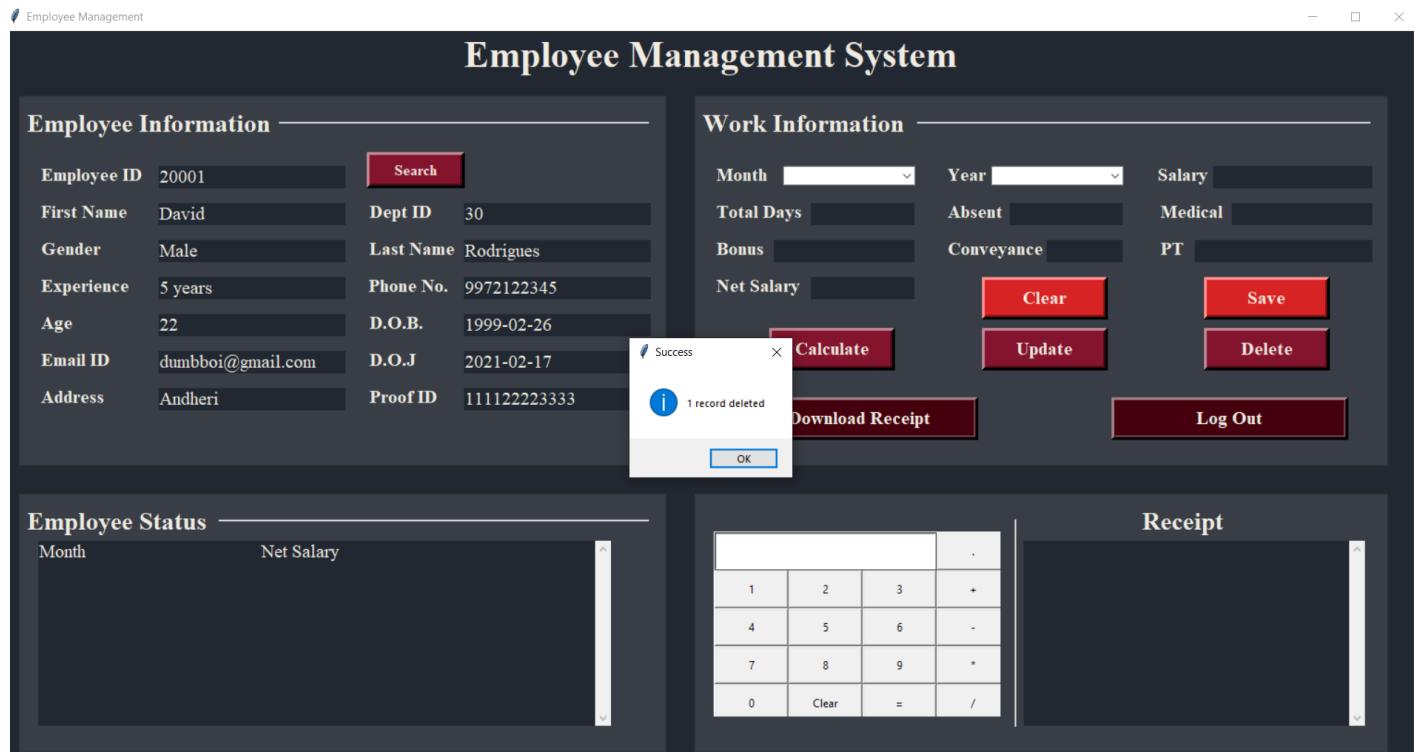
15. After saving your calculations, you can download the Receipt that has been generated by clicking on download receipt button.



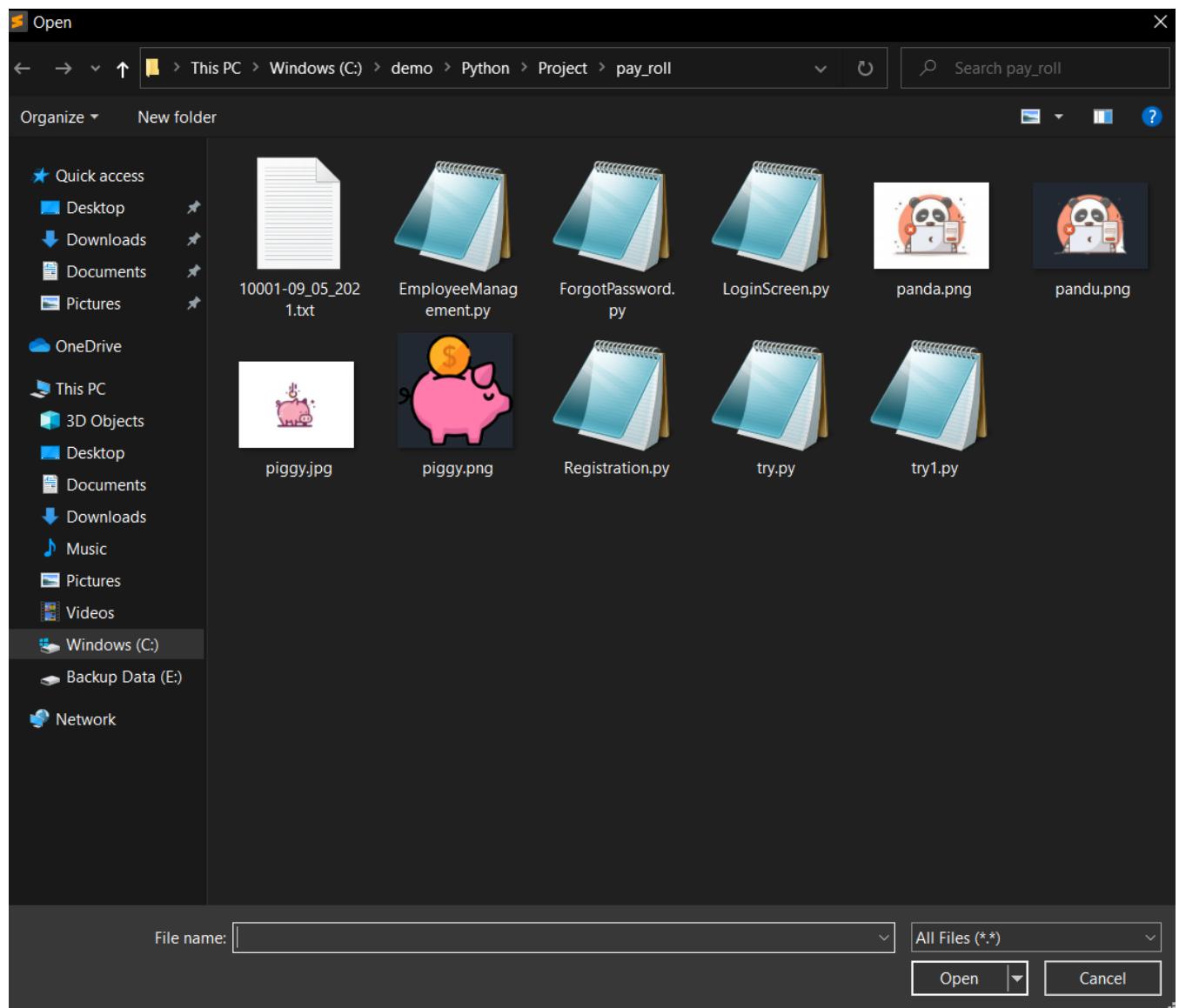
16. After downloading, you can find your receipt in your current folder which is saved as .txt file.

```
Employee ID: 10001 09/05/2021 23:23:42
Employee Name: Vidhi Shah
Salary Slip of May2017
-----
Total days: 31
Absent days: 1
Present days: 30
-----
Salary: 10000.0
Conveyance Amount: 11.0
Medical Amount: 111.0
Bonus Amount: 11.0
Total Gross Salary: 10133.0
-----
Professional Tax1.0
Source Tax (10% of Salary): 1000.0
Provident Funds (12% of Salary): 1200.0
Total Deduction: 2201.0
-----
Net Salary: 7932.0
```

17. In case you want to delete the calculations of a particular Employee, you can do so by entering the Employee ID, clicking on search button and then Delete button.



18. This is Project folder will all the python files.



6. About Project

Due to increase in number of Employee in an organization it becomes difficult to store data of each employee in a specific organization manually using paper documents or flat files. This application has interface which is user friendly and helps storing as well as retrieval of data by just some clicks.

Consider a database as explained below:-

An employer is the one who selects the employee for their organization. Now the employer and employee both will have either same or different department depending on the situation.

Employee from specific department, let's say (Technical department) selects an employee to work for their organization. The employee will then add the employee's name to the company's database and can then track progress, work assignment and their salary. Note that only employer can add or remove the employee by login through their registered information / ID.

Employee and Employer both has different level of access to Database. Once the employer registers the employee's information, he/she becomes the part of organization.

It also calculates the salary of each employee in an organization, depending on the department and the work they have done, thus preventing error while calculating salary and helps user access data by their ID's and solving the problem of data storage and data loss.