

- Vaibhav Goel
- 21MCME24

## INITIAL STATUS OF OUR DATABASE

- DATABASE USED : COMPANY

```
mysql> USE COMPANY
Reading table information for completion of table and column names
You can turn off this feature to get a quicker startup with -A

Database changed
```

- Employee Table

```
mysql> select * from Employees;
+-----+-----+-----+-----+-----+-----+-----+
| EmployeeID | EmployeeName | JobTitle | DateOfBirth | JoiningDate | Salary | DepartmentID |
+-----+-----+-----+-----+-----+-----+-----+
| 1 | Franklin | Tester | 1955-12-08 | 2019-12-25 | 1250.24 | 1 |
| 2 | Vaibhav | CEO | 2002-11-21 | 2020-12-25 | 1000000.00 | 1 |
| 3 | Alicia | Developer | 1968-01-19 | 2021-05-05 | 1000.00 | 3 |
| 4 | Jennifer | Management | 1990-06-20 | 2022-05-04 | 25698.00 | 5 |
| 5 | Ramesh | HR | 1962-09-15 | 2015-04-10 | 12584.25 | 1 |
| 6 | Rajan | Manager | 2017-09-08 | 2023-09-14 | 500.00 | 2 |
| 7 | SanjanaSanghi | EventManager | 2018-09-13 | 2023-09-14 | 1000.00 | 3 |
| 8 | Rohan Goel | Managing director | 2018-09-06 | 2023-08-27 | 100.00 | 5 |
+-----+-----+-----+-----+-----+-----+-----+
8 rows in set (0.00 sec)
```

- Department Table

```
mysql> select * from Department;
+-----+-----+-----+
| DepartmentID | DepartmentName | DepartmentLocation |
+-----+-----+-----+
| 1 | Research | SCIS |
| 2 | Computer | NORTH |
| 3 | SLS | SOUTH |
| 4 | Management | Pune |
| 5 | Software | Ludhiana |
| 6 | Events | Daman and Diu |
| 7 | Events handler | Andaman and nicobar |
+-----+-----+-----+
7 rows in set (0.00 sec)
```

- In the db.properties file all the information related to url, user and password has already been written.

## QUESTION 7

- Initially when we will run the code, it will ask the user which task he wants to perform, whether insertion of information or displaying the information.
- For differentiating the tasks I have used an if-else condition that will help to decide which option is selected by the user and it will run until user press the exit option which is number “5”.

```
75          System.out.print("Enter employee id : ");
76          int id = sc.nextInt();
77          inserter.setInt(1, id);
78
79
80          System.out.print("Enter the employee name : ");
81          sc.nextLine();
82          String name = sc.nextLine();
83          inserter.setString(2, name);
84
```

Problems Servers Terminal Data Source Explorer Properties Console x Package Explorer  
Q7 (1) [Java Application] /home/vaibhav/.p2/pool/plugins/org.eclipse.justj.openjdk.hotspot.jre.full.linux.x86\_64\_17.0.8.v20230831-1047/jre/bin/java (28-Sep-2023, 8:28:30 pm) [pid: 26617]

Enter 1 to insert Employee Data in Employee table  
Enter 2 to insert Department Data in Department table  
Enter 3 to display Data for all Employees  
Enter 4 to display Data for all Departments  
Enter 5 to exit from the program.  
Enter your option :

- If the selected option is “1”, then user can insert the Employee data in the database. He needs to make sure that that Employee ID is not repeating and Department ID is already present in the department table. If anyone of the constraint is not satisfied then the data won’t be inserted in the database. After addition in the Database, I have also shown the updated database and we can see that our input is accepted.

```
Enter 5 to exit from the program.  
Enter your option : 1  
  
/*****EMPLOYEE DATA*****/  
Enter Employee Id : 9  
Enter the employee name : Payal  
Enter employee Job title : Gamer  
Enter Date of Birth (Format : yyyy-mm-dd) : 2002-05-05  
Enter Joining Date (Format : yyyy-mm-dd) : 2019-06-10  
Enter Salary of person : 10001  
Enter department Id : 2  
  
Employee Table:  
Employee ID: 1, Employee Name: Franklin, Job Title: Tester, Birth Date: 1955-12-08, Joining Date: 2019-12-25, Salary: 1250.240000, Department ID: 1  
Employee ID: 2, Employee Name: Vaibhav, Job Title: CEO, Birth Date: 2002-11-21, Joining Date: 2020-12-25, Salary: 1000000.000000, Department ID: 1  
Employee ID: 3, Employee Name: Alicia, Job Title: Developer, Birth Date: 1968-01-19, Joining Date: 2021-05-05, Salary: 1000.000000, Department ID: 3  
Employee ID: 4, Employee Name: Jennifer, Job Title: Management, Birth Date: 1990-06-20, Joining Date: 2022-05-04, Salary: 25698.000000, Department ID: 5  
Employee ID: 5, Employee Name: Ramesh, Job Title: HR, Birth Date: 1962-09-15, Joining Date: 2015-04-10, Salary: 12584.250000, Department ID: 1  
Employee ID: 6, Employee Name: Rajan, Job Title: Manager, Birth Date: 2017-09-08, Joining Date: 2023-09-14, Salary: 500.000000, Department ID: 2  
Employee ID: 7, Employee Name: SanjanaSanghi, Job Title: EventManager, Birth Date: 2018-09-13, Joining Date: 2023-09-14, Salary: 1000.000000, Department ID: 3  
Employee ID: 8, Employee Name: Rohan Gool, Job Title: Managing director, Birth Date: 2018-09-06, Joining Date: 2022-08-27, Salary: 100.000000, Department ID: 5  
Employee ID: 9, Employee Name: Payal, Job Title: Gamer, Birth Date: 2002-05-05, Joining Date: 2019-06-10, Salary: 10001.000000, Department ID: 2
```

- If the above mentioned constraint are not satisfied, in that case data won't be accepted and it will throw an error.

```

Enter your option : 1

/*****EMPLOYEE DATA*****/
Enter Employee Id : 8
Enter the employee name : Payal
Enter employee Job title : Gamer
Enter Date of Birth (Format : yyyy-mm-dd) : 2002-11-11
Enter Joining Date (Format : yyyy-mm-dd) : 2016-12-05
Enter Salary of person : 100004
Enter department Id : 5
Sep 20, 2023 8:33:19 PM temp.07 main
SEVERE: Duplicate entry '8' for key 'Employees.PRIMARY'
java.sql.SQLIntegrityConstraintViolationException: Duplicate entry '8' for key 'Employees.PRIMARY'
    at com.mysql.cj.jdbc.exceptions.SQLException.createSQLException(SQLException.java:118)
    at com.mysql.cj.jdbc.exceptions.SQLExceptionMapping.translateException(SQLExceptionMapping.java:122)
    at com.mysql.cj.jdbc.ClientPreparedStatement.executeInternal(ClientPreparedStatement.java:916)
    at com.mysql.cj.jdbc.ClientPreparedStatement.executeUpdateInternal(ClientPreparedStatement.java:1061)
    at com.mysql.cj.jdbc.ClientPreparedStatement.executeUpdateInternal(ClientPreparedStatement.java:1061)
    at com.mysql.cj.jdbc.ClientPreparedStatement.executeLargeUpdate(ClientPreparedStatement.java:1320)
    at com.mysql.cj.jdbc.ClientPreparedStatement.executeUpdate(ClientPreparedStatement.java:994)
    at temp/temp.07.main(07.java:104)

```

- **If the selected option is “2”**, then user can insert the Department data in the database. He needs to make sure that that Department ID is not repeating. If the constraint is not satisfied then the data won't be inserted in the database. After addition in the Database, I have also shown the updated database and we can see that our input is accepted.

```

Enter your option : 2

/*****DEPARTMENT DATA*****/
Enter Department Id : 8
Enter Department Name : Gaming
Enter Department Location : Goa

Department Table:
Department ID: 1, Department Name: Research, Department Location: SCIS
Department ID: 2, Department Name: Computer, Department Location: NORTH
Department ID: 3, Department Name: SLS, Department Location: SOUTH
Department ID: 4, Department Name: Management, Department Location: Pune
Department ID: 5, Department Name: Software, Department Location: Ludhiana
Department ID: 6, Department Name: Events, Department Location: Daman and Diu
Department ID: 7, Department Name: Events handler, Department Location: Andaman and nicobar
Department ID: 8, Department Name: Gaming, Department Location: Goa

```

- If the above mentioned constraint are not satisfied, in that case data won't be accepted and it will throw an error.

```

Enter your option : 2

/*****DEPARTMENT DATA*****/
Enter Department Id : 5
Enter Department Name : Gaming
Enter Department Location : Goa
Sep 28, 2023 8:44:37 PM temp.Q7 main
SEVERE: Duplicate entry '5' for key 'Department.PRIMARY'
java.sql.SQLIntegrityConstraintViolationException: Duplicate entry '5' for key 'Department.PRIMARY'
    at com.mysql.cj.jdbc.exceptions.SQLException.createSQLException(SQLException.java:118)
    at com.mysql.cj.jdbc.exceptions.SQLExceptionsMapping.translateException(SQLExceptionsMapping.java:122)
    at com.mysql.cj.jdbc.ClientPreparedStatement.executeInternal(ClientPreparedStatement.java:916)
    at com.mysql.cj.jdbc.ClientPreparedStatement.executeUpdateInternal(ClientPreparedStatement.java:1061)
    at com.mysql.cj.jdbc.ClientPreparedStatement.executeUpdateInternal(ClientPreparedStatement.java:1009)
    at com.mysql.cj.jdbc.ClientPreparedStatement.executeLargeUpdate(ClientPreparedStatement.java:1320)
    at com.mysql.cj.jdbc.ClientPreparedStatement.executeUpdate(ClientPreparedStatement.java:994)
    at temp/temp.Q7.main(Q7.java:137)

```

- **If the selected option is “3”**, then it will display the complete data of the Employee Table.

```

Enter your option : 3

Employee Table:
Employee ID: 1, Employee Name: Franklin, Job Title: Tester, Birth Date: 1955-12-08, Joining Date: 2019-12-25, Salary: 1250.240000, Department ID: 1
Employee ID: 2, Employee Name: Vaibhav, Job Title: CEO, Birth Date: 2002-11-21, Joining Date: 2020-12-25, Salary: 1000000.000000, Department ID: 1
Employee ID: 3, Employee Name: Alicia, Job Title: Developer, Birth Date: 1968-01-19, Joining Date: 2021-05-05, Salary: 1000.000000, Department ID: 3
Employee ID: 4, Employee Name: Jennifer, Job Title: Management, Birth Date: 1990-06-20, Joining Date: 2022-05-04, Salary: 25698.000000, Department ID: 5
Employee ID: 5, Employee Name: Ramesh, Job Title: HR, Birth Date: 1962-09-15, Joining Date: 2015-04-10, Salary: 12584.250000, Department ID: 1
Employee ID: 6, Employee Name: Rajan, Job Title: Manager, Birth Date: 2017-09-08, Joining Date: 2023-09-14, Salary: 500.000000, Department ID: 2
Employee ID: 7, Employee Name: SanjanaSanghi, Job Title: EventManager, Birth Date: 2018-09-13, Joining Date: 2023-09-14, Salary: 1000.000000, Department ID: 3
Employee ID: 8, Employee Name: Rohan Goel, Job Title: Managing director, Birth Date: 2018-09-06, Joining Date: 2023-08-27, Salary: 100.000000, Department ID: 5
Employee ID: 9, Employee Name: Payal, Job Title: Gamer, Birth Date: 2002-05-05, Joining Date: 2019-06-10, Salary: 10001.000000, Department ID: 2

```

- **If the selected option is “4”**, then it will display the complete data of the Department Table.

```

Enter your option : 4

Department Table:
Department ID: 1, Department Name: Research, Department Location: SCIS
Department ID: 2, Department Name: Computer, Department Location: NORTH
Department ID: 3, Department Name: SLS, Department Location: SOUTH
Department ID: 4, Department Name: Management, Department Location: Pune
Department ID: 5, Department Name: Software, Department Location: Ludhiana
Department ID: 6, Department Name: Events, Department Location: Daman and Diu
Department ID: 7, Department Name: Events handler, Department Location: Andaman and nicobar
Department ID: 8, Department Name: Gaming, Department Location: Goa

```

- **If the selected option is “5”**, in that case it will EXIT from the program.

```

Enter 5 to exit from the program.
Enter your option : 5
EXITING FROM HERE!!

```

## QUESTION 8

- In this we are running a query such that, our output will show only those employees that have joined after an certain date **and** all are over n years old.
- Initially I have displayed the complete Employee Table and then the required inputs of joining date and age are asked from the user.

```
Employee Table:
Employee ID: 1, Employee Name: Franklin, Job Title: Tester, Birth Date: 1955-12-08, Joining Date: 2019-12-25, Salary: 1250.240000, Department ID: 1
Employee ID: 2, Employee Name: Vaibhav, Job Title: CEO, Birth Date: 2002-11-21, Joining Date: 2020-12-25, Salary: 1000000.000000, Department ID: 1
Employee ID: 3, Employee Name: Alicia, Job Title: Developer, Birth Date: 1968-01-19, Joining Date: 2021-05-05, Salary: 1000.000000, Department ID: 3
Employee ID: 4, Employee Name: Jennifer, Job Title: Management, Birth Date: 1990-06-20, Joining Date: 2022-05-04, Salary: 25698.000000, Department ID: 5
Employee ID: 5, Employee Name: Ramesh, Job Title: HR, Birth Date: 1962-09-15, Joining Date: 2015-04-10, Salary: 12584.250000, Department ID: 1
Employee ID: 6, Employee Name: Rajan, Job Title: Manager, Birth Date: 2017-09-08, Joining Date: 2023-09-14, Salary: 500.000000, Department ID: 2
Employee ID: 7, Employee Name: SanjanaSanghi, Job Title: EventManager, Birth Date: 2018-09-13, Joining Date: 2023-09-14, Salary: 1000.000000, Department ID: 3
Employee ID: 8, Employee Name: Rohan Goel, Job Title: Managing director, Birth Date: 2018-09-06, Joining Date: 2023-08-27, Salary: 100.000000, Department ID: 5
Employee ID: 9, Employee Name: Payal, Job Title: Gamer, Birth Date: 2002-05-05, Joining Date: 2019-06-10, Salary: 10001.000000, Department ID: 2
```

- Inputs are Taken from the user:-

```
Enter the join date (YYYY-MM-DD): 2018-11-05
Enter the minimum required age: 50
```

- After this result has been displayed. The result consist of the complete information of the employee that satisfy the required constraint of our query.

```
Employee Table:
Employee ID: 1, Employee Name: Franklin, Job Title: Tester, Birth Date: 1955-12-08, Joining Date: 2019-12-25, Salary: 1250.240000, Department ID: 1
Employee ID: 2, Employee Name: Vaibhav, Job Title: CEO, Birth Date: 2002-11-21, Joining Date: 2020-12-25, Salary: 1000000.000000, Department ID: 1
Employee ID: 3, Employee Name: Alicia, Job Title: Developer, Birth Date: 1968-01-19, Joining Date: 2021-05-05, Salary: 1000.000000, Department ID: 3
Employee ID: 4, Employee Name: Jennifer, Job Title: Management, Birth Date: 1990-06-20, Joining Date: 2022-05-04, Salary: 25698.000000, Department ID: 5
Employee ID: 5, Employee Name: Ramesh, Job Title: HR, Birth Date: 1962-09-15, Joining Date: 2015-04-10, Salary: 12584.250000, Department ID: 1
Employee ID: 6, Employee Name: Rajan, Job Title: Manager, Birth Date: 2017-09-08, Joining Date: 2023-09-14, Salary: 500.000000, Department ID: 2
Employee ID: 7, Employee Name: SanjanaSanghi, Job Title: EventManager, Birth Date: 2018-09-13, Joining Date: 2023-09-14, Salary: 1000.000000, Department ID: 3
Employee ID: 8, Employee Name: Rohan Goel, Job Title: Managing director, Birth Date: 2018-09-06, Joining Date: 2023-08-27, Salary: 100.000000, Department ID: 5
Employee ID: 9, Employee Name: Payal, Job Title: Gamer, Birth Date: 2002-05-05, Joining Date: 2019-06-10, Salary: 10001.000000, Department ID: 2

Enter the join date (YYYY-MM-DD): 2018-11-05
Enter the minimum required age: 50
Employee ID: 1, Employee Name: Franklin, Job Title: Tester, Birth Date: 1955-12-08, Joining Date: 2019-12-25, Salary: 1250.240000, Department ID: 1
Employee ID: 3, Employee Name: Alicia, Job Title: Developer, Birth Date: 1968-01-19, Joining Date: 2021-05-05, Salary: 1000.000000, Department ID: 3
```

- The result of the query is shown above.

## QUESTION 9

- Initially before running our query our database looks like this. So first of all the things, we will find the three senior most employees from our Employee table. After finding we will change the department ID of each of the resultant employees to the department ID of the **Management Department whose department ID is 4**. Once, there ID's are changed we can say that they have been successfully shifted to management department. The employees that will be selected are highlighted in the following image.

Employee Table:

Employee ID: 1, Employee Name: Franklin, Job Title: Tester, Birth Date: 1955-12-08, Joining Date: 2019-12-25, Salary: 1250.240000, Department ID: 1
Employee ID: 2, Employee Name: Vaibhav, Job Title: CEO, Birth Date: 2002-11-21, Joining Date: 2020-12-25, Salary: 1000000.000000, Department ID: 1
Employee ID: 3, Employee Name: Alicia, Job Title: Developer, Birth Date: 1968-01-19, Joining Date: 2021-05-05, Salary: 1000.000000, Department ID: 3
Employee ID: 4, Employee Name: Jennifer, Job Title: Management, Birth Date: 1990-06-20, Joining Date: 2022-05-04, Salary: 25698.000000, Department ID: 5
Employee ID: 5, Employee Name: Ramesh, Job Title: HR, Birth Date: 1962-09-15, Joining Date: 2015-04-10, Salary: 12584.250000, Department ID: 1
Employee ID: 6, Employee Name: Rajan, Job Title: Manager, Birth Date: 2017-09-08, Joining Date: 2023-09-14, Salary: 500.000000, Department ID: 2
Employee ID: 7, Employee Name: SanjanaSanghi, Job Title: EventManager, Birth Date: 2018-09-13, Joining Date: 2023-09-14, Salary: 1000.000000, Department ID: 3
Employee ID: 8, Employee Name: Rohan Goel, Job Title: Managing director, Birth Date: 2018-09-06, Joining Date: 2023-08-27, Salary: 100.000000, Department ID: 5
Employee ID: 9, Employee Name: Payal, Job Title: Gamer, Birth Date: 2002-05-05, Joining Date: 2019-06-10, Salary: 10001.000000, Department ID: 2

- We can see that the department ID of the three senior most employees has been changed. Seniority of the employees is decided on the basis of their joining date.

```
*****Each Employee is being verified/interviewed for the Management roles(Senior Most employees are decided according to there Joining Date)*****  
  
Employee ID: 5, Employee Name: Ramesh, Job Title: HR, Birth Date: 1962-09-15, Joining Date: 2015-04-10, Salary: 12584.250000, Department ID: 4  
Employee ID: 9, Employee Name: Payal, Job Title: Gamer, Birth Date: 2002-05-05, Joining Date: 2019-06-10, Salary: 10001.000000, Department ID: 4  
Employee ID: 1, Employee Name: Franklin, Job Title: Tester, Birth Date: 1955-12-08, Joining Date: 2019-12-25, Salary: 1250.240000, Department ID: 4  
  
Employee ID has been succussfully updated in Database as Well
```

- We can see in the table that there Department ID has been changed.

```
mysql> select * from Employees;  
+-----+-----+-----+-----+-----+-----+-----+  
| EmployeeID | EmployeeName | JobTitle | DateOfBirth | JoiningDate | Salary | DepartmentID |  
+-----+-----+-----+-----+-----+-----+-----+  
| 1 | Franklin | Tester | 1955-12-08 | 2019-12-25 | 1250.24 | 4 |  
| 2 | Vaibhav | CEO | 2002-11-21 | 2020-12-25 | 1000000.00 | 1 |  
| 3 | Alicia | Developer | 1968-01-19 | 2021-05-05 | 1000.00 | 3 |  
| 4 | Jennifer | Management | 1990-06-20 | 2022-05-04 | 25698.00 | 5 |  
| 5 | Ramesh | HR | 1962-09-15 | 2015-04-10 | 12584.25 | 4 |  
| 6 | Rajan | Manager | 2017-09-08 | 2023-09-14 | 500.00 | 2 |  
| 7 | SanjanaSanghi | EventManager | 2018-09-13 | 2023-09-14 | 1000.00 | 3 |  
| 8 | Rohan Goel | Managing director | 2018-09-06 | 2023-08-27 | 100.00 | 5 |  
| 9 | Payal | Gamer | 2002-05-05 | 2019-06-10 | 10001.00 | 4 |  
+-----+-----+-----+-----+-----+-----+-----+  
9 rows in set (0.00 sec)
```

## QUESTION 10,11,12

- The index.html from the webapp folder is being rendered on the web Browser when the url:-  
“localhost:8080/IT\_Assignment\_8\_Q10\_Q11\_Q12”  
is specified in the search bar. When the page is loaded it looks like the following screenshot.
- It shows three links that will take us to different HTML pages.
- **The first link i.e. “EMPLOYEE INPUT FORM”** will take us to the page where we can enter the employee data and it will be added to the Employee table in our COMPANY database. After proper Validation only, data will be added to the employee table.
- **The second Link i.e. “DEPARTMENT INPUT FORM”** will take us to the page where we can enter department data and it will be added to the Department table in the COMPANY database. After proper Validation only, data will be added to the department table.
- **The third link i.e. “Employees who joined After a certain Date and are over n years old”** will take us to the HTML page where we can enter the joining Date and required date and it will run the query like we did in Q8.



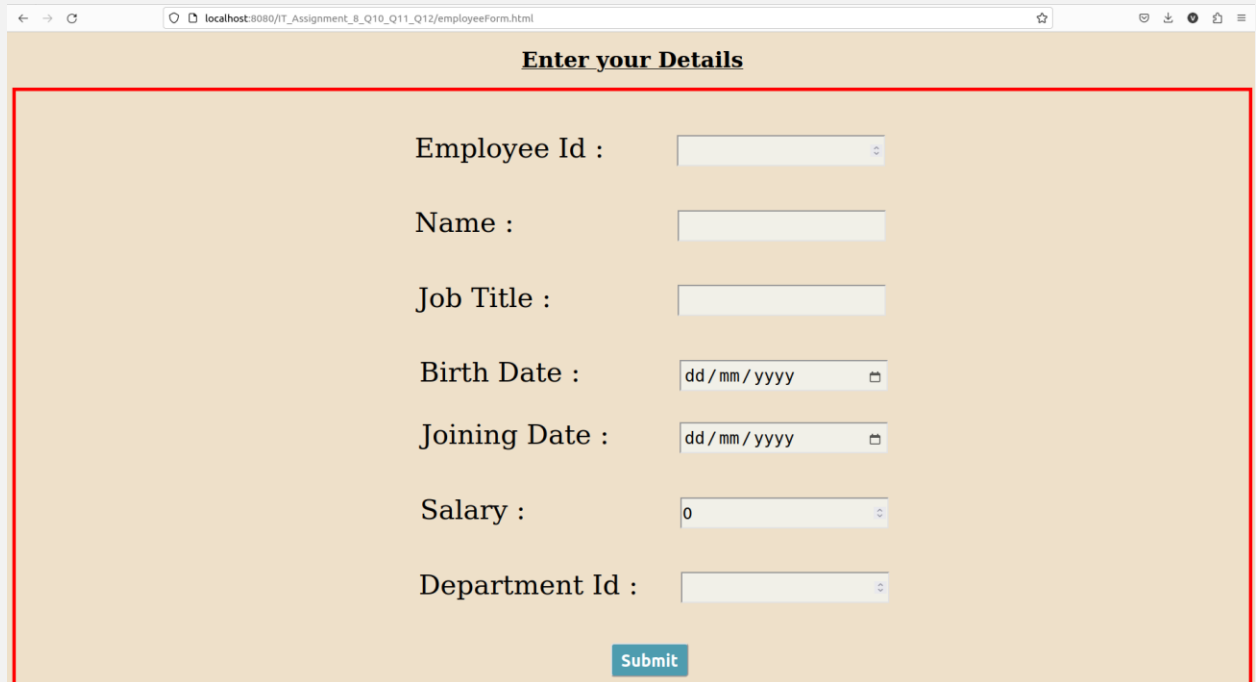


## WHEN THE FIRST LINK IS CLICKED

- It will take us to the URL :-

[http://localhost:8080/IT\\_Assignment\\_8\\_Q10\\_Q11\\_Q12/employeeForm.html](http://localhost:8080/IT_Assignment_8_Q10_Q11_Q12/employeeForm.html)

The following page will be rendered where we can enter the Employee data which will get stored in the Employee table in our COMPANY Database.



The screenshot shows a web browser window with the address bar displaying `localhost:8080/IT_Assignment_8_Q10_Q11_Q12/employeeForm.html`. The page has a light orange background and a title **Enter your Details**. The form contains the following fields:

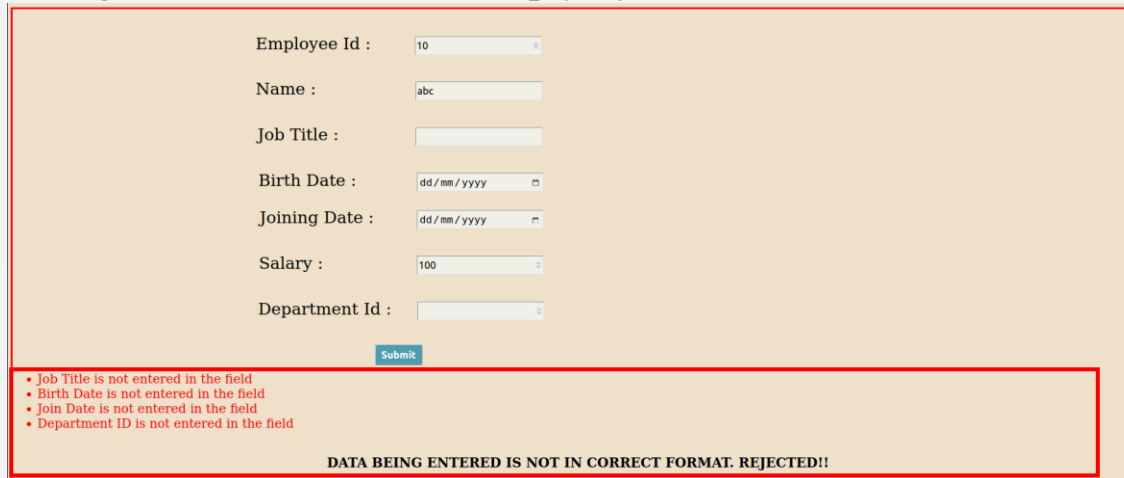
- Employee Id :
- Name :
- Job Title :
- Birth Date :
- Joining Date :
- Salary :
- Department Id :

A blue **Submit** button is located at the bottom right of the form.

- In `addEventListener()`, a single parameter “event” has been passed which gives us the information of the button being pressed which results in an event.
  - If the **information is invalid**, in that case `event.preventDefault()` is used that stops the default functionality of an event. In this case the default functionality of a submit button which is to submit the form data, has been prevented using this function in the case of invalid information.
  - If the **information is valid**, then the above mentioned function is not used and the data is being submitted.



- We have to fill each and every field in the input blocks. If any of the **fields are left empty** in that case it will display an error message telling which fields are left empty by the user.



Employee Id :

Name :

Job Title :

Birth Date :

Joining Date :

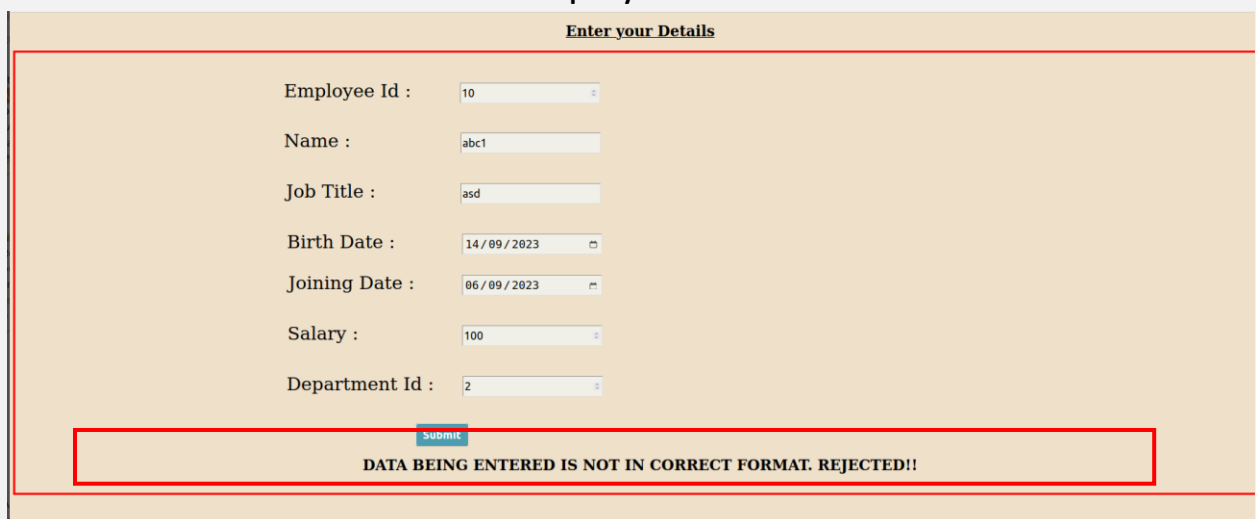
Salary :

Department Id :

- Job Title is not entered in the field
- Birth Date is not entered in the field
- Join Date is not entered in the field
- Department ID is not entered in the field

DATA BEING ENTERED IS NOT IN CORRECT FORMAT. REJECTED!!

- If an **Invalid data is entered** in the input form, like writing numbers in the name, in that case as well form will not be submitted. A message saying “DATA BEING ENTERED IS NOT IN CORRECT FORMAT. REJECTED!!” will be displayed.



**Enter your Details**

Employee Id :

Name :

Job Title :

Birth Date :

Joining Date :

Salary :

Department Id :

DATA BEING ENTERED IS NOT IN CORRECT FORMAT. REJECTED!!

- Following is this input form that represents **valid entries** in all the input tags. In this case, it will get submit.

Employee Id :

Name :

Job Title :

Birth Date :

Joining Date :

Salary :

Department Id :

- Once the Data is successfully submitted it will show the message “Successfully Inserted!!” at the bottom of the web page.

Joining Date :

Salary :

Department Id :

**Successfully Inserted!!**

- We can see our database is updated as well.

```
mysql> select * from Employees;
```

EmployeeID	EmployeeName	JobTitle	DateOfBirth	JoiningDate	Salary	DepartmentID
1	Franklin	Tester	1955-12-08	2019-12-25	1250.24	4
2	Vaibhav	CEO	2002-11-21	2020-12-25	1000000.00	1
3	Alicia	Developer	1968-01-19	2021-05-05	1000.00	3
4	Jennifer	Management	1990-06-20	2022-05-04	25698.00	5
5	Ramesh	HR	1962-09-15	2015-04-10	12584.25	4
6	Rajan	Manager	2017-09-08	2023-09-14	500.00	2
7	SanjanaSanghi	EventManager	2018-09-13	2023-09-14	1000.00	3
8	Rohan Goel	Managing director	2018-09-06	2023-08-27	100.00	5
9	Payal	Game	2002-05-05	2019-06-10	10001.00	4
10	Ram	HOD	2018-09-14	2021-09-08	100.00	2

10 rows in set (0.00 sec)

- In case any **constraint is Violated** like duplicate Employee ID or invalid Department ID in that case data will not be inserted and it will display a message “INSERTION FAILED”.

Employee Id :

Name :

Job Title :

Birth Date :

Joining Date :

Salary :

Department Id :

**Insertion of Data Failed!!**

- Maybe Duplicate Primary key is present.
- Department ID is not there in parent table i.e. in Department Table

Employee with employee ID 2 is already there.

Table remains Unchanged.

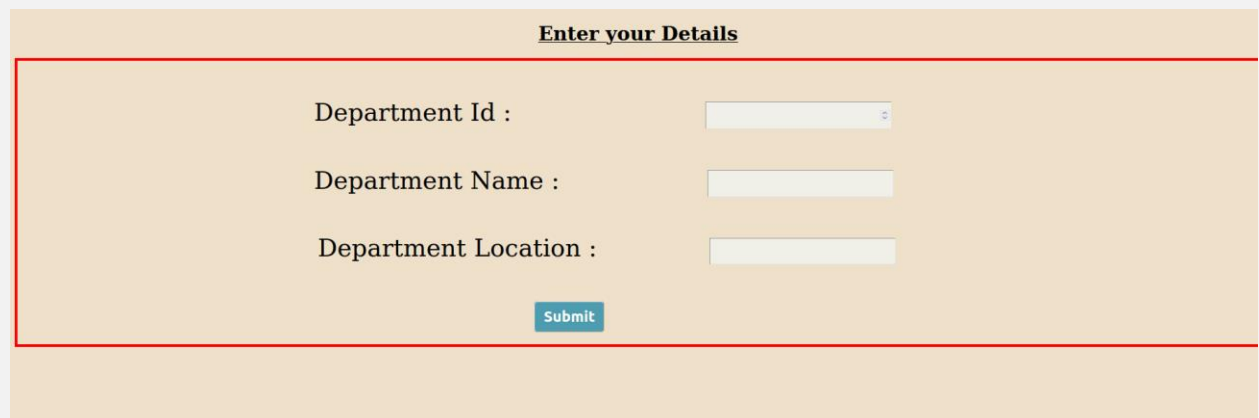
```
mysql> select * from Employees;
+-----+-----+-----+-----+-----+-----+-----+
| EmployeeID | EmployeeName | JobTitle | DateOfBirth | JoiningDate | Salary | DepartmentID |
+-----+-----+-----+-----+-----+-----+-----+
| 1 | Franklin | Tester | 1955-12-08 | 2019-12-25 | 1250.24 | 4 |
| 2 | Vaibhav | CEO | 2002-11-21 | 2020-12-25 | 1000000.00 | 1 |
| 3 | Alicia | Developer | 1968-01-19 | 2021-05-05 | 1000.00 | 3 |
| 4 | Jennifer | Management | 1990-06-20 | 2022-05-04 | 25698.00 | 5 |
| 5 | Ramesh | HR | 1962-09-15 | 2015-04-10 | 12584.25 | 4 |
| 6 | Rajan | Manager | 2017-09-08 | 2023-09-14 | 500.00 | 2 |
| 7 | SanjanaSanghi | EventManager | 2018-09-13 | 2023-09-14 | 1000.00 | 3 |
| 8 | Rohan Goel | Managing director | 2018-09-06 | 2023-08-27 | 100.00 | 5 |
| 9 | Payal | Gamer | 2002-05-05 | 2019-06-10 | 10001.00 | 4 |
| 10 | Ram | HOD | 2018-09-14 | 2021-09-08 | 100.00 | 2 |
+-----+-----+-----+-----+-----+-----+-----+
10 rows in set (0.00 sec)
```

## WHEN THE SECOND LINK IS CLICKED

- It will take us to the URL :-

<http://localhost:8080/IT Assignment 8 Q10 Q11 Q12/departmentForm.html>

The following page will be rendered where we can enter the Department data which will get stored in the Department table in our COMPANY Database.



The screenshot shows a web form with a light orange background. At the top, there is a header bar with the text "Enter your Details" in a bold, black font. Below the header, there is a form area with a red border. Inside the form area, there are three input fields: "Department Id :", "Department Name :", and "Department Location :". Each input field is a simple text box. Below the input fields, there is a blue "Submit" button.

- In `addEventListener()`, a single parameter “event” has been passed which gives us the information of the button being pressed which results in an event.
  - If the **information is invalid**, in that case `event.preventDefault()` is used that stops the default functionality of an event. In this case the default functionality of a submit button which is to submit the form data, has been prevented using this function in the case of invalid information.
  - If the **information is valid**, then the above mentioned function is not used and the data is being submitted.

- We have to fill each and every field in the input blocks. If any of the **fields are left empty** in that case it will display an error message telling which fields are left empty by the user.

**Enter your Details**

Department Id :	<input type="text" value="13"/>
Department Name :	<input type="text"/>
Department Location :	<input type="text" value="Chennai"/>

- Department Name is not entered in the field

**DATA BEING ENTERED IS NOT IN CORRECT FORMAT. REJECTED!!**

- If an **Invalid data is entered** in the input form, like writing numbers in the name, in that case as well form will not be submitted. A message saying “DATA BEING ENTERED IS NOT IN CORRECT FORMAT. REJECTED!!” will be displayed.

**Enter your Details**

Department Id :	<input type="text" value="13"/>
Department Name :	<input type="text" value="Travelling"/>
Department Location :	<input type="text" value="Chennai543"/>

**DATA BEING ENTERED IS NOT IN CORRECT FORMAT. REJECTED!!**

- Following is this input form that represents **valid entries** in all the input tags. In this case, it will get submit.

**Enter your Details**

Department Id :	<input type="text" value="9"/>
Department Name :	<input type="text" value="Travelling"/>
Department Location :	<input type="text" value="Chennai"/>

- Once the Data is successfully submitted it will show the message “Successfully Inserted!!” at the bottom of the web page.

**Successfully Inserted!!**

- We can see our database is updated as well.

```
mysql> select * from Department;
+-----+-----+-----+
| DepartmentID | DepartmentName | DepartmentLocation |
+-----+-----+-----+
| 1 | Research | SCIS |
| 2 | Computer | NORTH |
| 3 | SLS | SOUTH |
| 4 | Management | Pune |
| 5 | Software | Ludhiana |
| 6 | Events | Daman and Diu |
| 7 | Events handler | Andaman and nicobar |
| 8 | Gaming | Goa |
| 9 | Travelling | Chennai |
+-----+-----+-----+
9 rows in set (0.00 sec)
```

- In case any **constraint is Violated** like duplicate Department ID in that case data will not be inserted and it will display a message “INSERTION FAILED”.

**Enter your Details**

Department Id :

Department Name :

Department Location :

**Insertion of Data Failed!!**

- **Maybe Duplicate Primary key is present.**

Department with department ID 9 is already there.

Table remains Unchanged.

```
mysql> select * from Department;
+-----+-----+-----+
| DepartmentID | DepartmentName | DepartmentLocation |
+-----+-----+-----+
| 1 | Research | SCIS |
| 2 | Computer | NORTH |
| 3 | SLS | SOUTH |
| 4 | Management | Pune |
| 5 | Software | Ludhiana |
| 6 | Events | Daman and Diu |
| 7 | Events handler | Andaman and nicobar |
| 8 | Gaming | Goa |
| 9 | Travelling | Chennai |
+-----+-----+-----+
9 rows in set (0.00 sec)
```



## WHEN THE THIRD LINK IS CLICKED

- It will take us to the URL :-

[http://localhost:8080/IT\\_Assignment\\_8\\_Q10\\_Q11\\_Q12/query1](http://localhost:8080/IT_Assignment_8_Q10_Q11_Q12/query1)

The following page will be rendered where we can enter the Joining Date and the age for the required query and will display the complete information of all the resultant employees.

**Enter your Details**

Joining Date :

dd/mm/yyyy

Age :

Submit

- We have to fill each and every field in the input blocks. If any of the **fields are left empty** in that case query won't be executed and it will display a message "INVALID INPUT HAS BEEN ENTERED".

**Enter your Details**

Joining Date :

dd/mm/yyyy

Age :

Submit

**RESULT OF QUERY**

Complete Employee Table

Employee ID	Employee Name	Job Title	Date of Birth	Joining Date	Salary	Department ID
1	Franklin	Tester	1955-12-08	2019-12-25	1250.24	4
2	Vaibhav	CEO	2002-11-21	2020-12-25	1000000.0	1
3	Alicia	Developer	1968-01-19	2021-05-05	1000.0	3
4	Jennifer	Management	1990-06-20	2022-05-04	25698.0	5
5	Ramesh	HR	1962-09-15	2015-04-10	12584.25	4
6	Rajan	Manager	2017-09-08	2023-09-14	500.0	2
7	SanjanaSanghi	EventManager	2018-09-13	2023-09-14	1000.0	3
8	Rohan Goel	Managing director	2018-09-06	2023-08-27	100.0	5
9	Payal	Gamer	2002-05-05	2019-06-10	10001.0	4
10	Ram	HOD	2018-09-14	2021-09-08	100.0	2

Invalid Input has been Entered!!

- If all the **fields are properly filled** in that case query will display a valid output.
- First it will display the Employee table in which complete information of all the employees is present.
- After that it displays the result of our entered query in a table format.

**Enter your Details**

Joining Date :

Age :

**RESULT OF QUERY**

Complete Employee Table

Employee ID	Employee Name	Job Title	Date of Birth	Joining Date	Salary	Department ID
1	Franklin	Tester	1955-12-08	2019-12-25	1250.24	4
2	Vaibhav	CEO	2002-11-21	2020-12-25	1000000.0	1
3	Alicia	Developer	1968-01-19	2021-05-05	1000.0	3
4	Jennifer	Management	1990-06-20	2022-05-04	25698.0	5
5	Ramesh	HR	1962-09-15	2015-04-10	12584.25	4
6	Rajan	Manager	2017-09-08	2023-09-14	500.0	2
7	SanjanaSanghi	EventManager	2018-09-13	2023-09-14	1000.0	3
8	Rohan Goel	Managing director	2018-09-06	2023-08-27	100.0	5
9	Payal	Gamer	2002-05-05	2019-06-10	10001.0	4
10	Ram	HOD	2018-09-14	2021-09-08	100.0	2

Resultant Employee Table

Employee ID	Employee Name	Job Title	Date of Birth	Joining Date	Salary	Department ID
1	Franklin	Tester	1955-12-08	2019-12-25	1250.24	4
3	Alicia	Developer	1968-01-19	2021-05-05	1000.0	3