Project Proposal

Project Name : Employee Pay-scale Management System Name : Swagata Naskar , IIT Kharagpur

Summary:

1. Employee Information

Employee data is very essential in order to maintain a proper record of the employees and there personal information for various purposes like contacting them for inviting for certain summit, feedback of the company from the employee data.

2. Maintaining Salary

Very important to keep this data which will help not only the managers and the HR to keep a track of the employee salaries but also help the company or its board to analyze what amount they are spending on a particular employee of a particular company.

3. Projects

In order to be successful company should be involved in various projects, so they also need to maintain the record of the salaries each employee is being paid for a particular type of project he/she is working on.

♣ SQL features used in the project:

- Created Explicit Cursors which shows the hourly pay of the employees associated with there Accounts and Ref cursor showing the employees who are a part of a particular department.
- Create a CDB and a PDB with users to manage the data according to the area of interest.
- Implement pre-defined exception cursor_already_open to demonstrate the understanding of the exceptional handling concept which shows what error will populate when we try to open a cursor which is already open.
- Created Index on Account Details table.
- Built an E-R Diagram to know how the entities are related in the payroll management system for any company.

List of Entities:

Employee

Employee table will include all the personal details of the employee and would be very much cover overall information of that particular employee.

Salary

Salary Table will cover all the current and previous salaries an employee had or currently has. This table will help a manager/ an HR to analyze which employee has been given promotion on which date or when did his salary grade changed.

Department

Department Table maintains the data of the all the possible departments an employee can belong to .

Account Details

Account Details Table will maintain the data regarding the accounts which the employee has connected with the company for his/her salary to be credited .

Attendance

This table includes all the data of the employees attendance which includes the number of hours an employee has worked in a week .

Project

This table includes the data of all the projects a particular company is working on or the projects on which the company is going to work in the future .

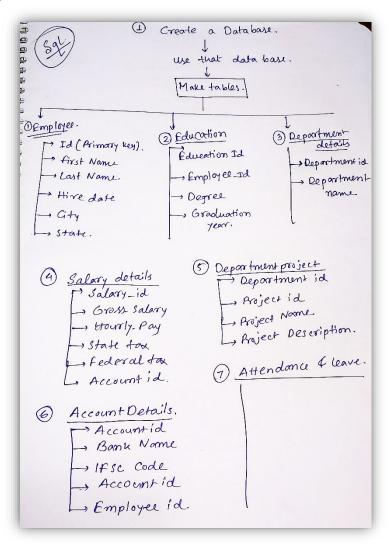
Education

The Education Table keeps the track of the education of the employee including his degrees achieved until now.

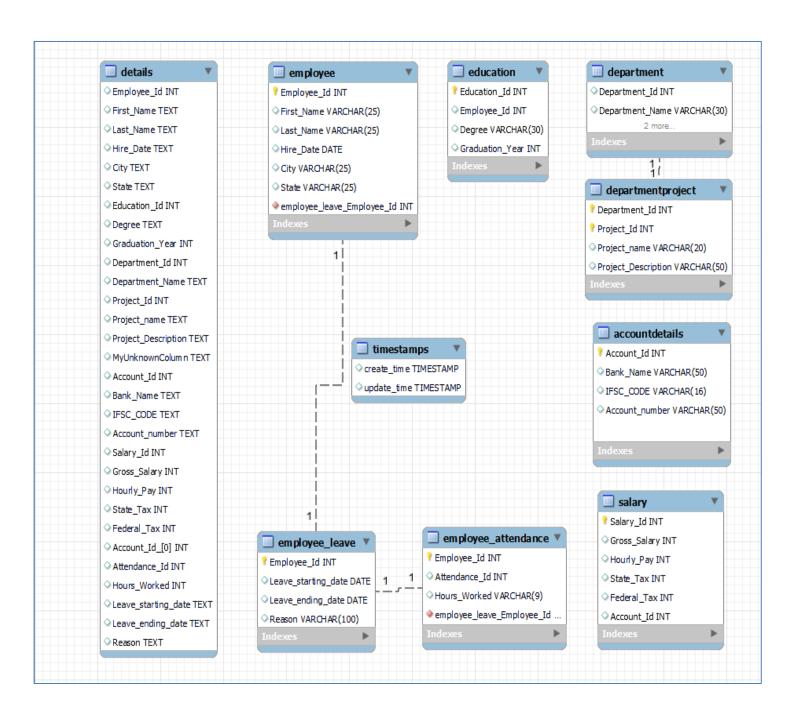
Leave

Leave table keeps the record of the number of leaves an employee takes or has taken over the course of any month or a year.

Hand Draw diagram:



♣ E-R – Diagram:



Create database and tables code:

```
create database Salary_payscale;
use Salary payscale;
                                    /*Employee Details*/
CREATE TABLE Employee(
Employee_Id Bigint(6),
First Name VARCHAR(25),
Last_Name VARCHAR(25),
Hire_Date DATE,
City VARCHAR(25),
State VARCHAR(25),
constraint primary key(Employee Id)):
INSERT INTO Employee (Employee Id, First Name, Last Name, Hire Date, City, State)
VALUES (1,'Rajeev','Joshi','14-04-21','Haridwar','Uttarakhand');
INSERT INTO Employee (Employee Id, First Name, Last Name, Hire Date, City, State)
VALUES (2,'Pankaj','Gurian','19-05-21','Mujaffarpur','Bihar');
INSERT INTO Employee (Employee Id , First Name , Last Name , Hire Date , City , State )
VALUES (3,'Sandeep','Meena','13-08-21','Varanashi','Varanashi');
INSERT INTO Employee (Employee Id, First Name, Last Name, Hire Date, City, State)
VALUES (4,'Jay','Kumar soni','9-09-21','Sikar','Rajasthan');
INSERT INTO Employee (Employee Id , First Name , Last Name , Hire Date , City , State )
VALUES (5,'Alok','Oran','16-10-21','Sikar','rajasthan');
INSERT INTO Employee (Employee Id , First Name , Last Name , Hire Date , City , State )
VALUES (6, 'Varun', 'Choudhary', '17-10-21', 'Ujjain', 'Madhya-Pradesh');
INSERT INTO Employee ( Employee_Id , First_Name , Last_Name , Hire_Date , City , State )
VALUES (7, 'Ritik', 'Saini', '5-11-21', 'Jodhpur', 'Rajasthan');
INSERT INTO Employee ( Employee_Id , First_Name , Last_Name , Hire_Date , City , State )
VALUES (8, 'Samannay', 'Roy', '12-12-21', 'Kharagpur', 'West-Bengal');
INSERT INTO Employee (Employee Id., First Name, Last Name, Hire Date, City, State)
VALUES (9,'Avinash','Kumar','29-12-21','chapra','Bihar');
INSERT INTO Employee (Employee_Id, First_Name, Last_Name, Hire_Date, City, State)
VALUES (10,'Ayush','Kumar','21-06-22','San Francisco','California');
                                    /*Education*/
CREATE TABLE Education(
 Education_Id int(9),
Employee Id int(9),
Degree VARCHAR(30),
Graduation_Year int(4),
CONSTRAINT Location PK PRIMARY KEY (Education Id),
FOREIGN KEY (Employee_Id) REFERENCES Employee(Employee_Id));
INSERT INTO Education ( Education_Id, Employee_Id , Degree , Graduation Year)
VALUES (10,1,'MBA',2017);
INSERT INTO Education (Education Id. Employee Id. Degree, Graduation Year)
VALUES (11,2,'MCA',2019);
INSERT INTO Education (Education_Id, Employee_Id, Degree, Graduation_Year)
VALUES (12.4.'B.TECH'.2011):
INSERT INTO Education (Education Id, Employee Id, Degree, Graduation Year)
```

```
VALUES (13,8,'MS',2015);
INSERT INTO Education (Education Id, Employee Id, Degree, Graduation Year)
VALUES (14,9,'Bachelor',2013);
INSERT INTO Education (Education_Id, Employee_Id, Degree, Graduation_Year)
VALUES (15,7,'Bachelor',2008);
INSERT INTO Education (Education Id, Employee Id, Degree, Graduation Year)
VALUES (16,5,'MBAr',2012);
INSERT INTO Education (Education Id, Employee Id, Degree, Graduation Year)
VALUES (17.6, 'BBA', 2015);
INSERT INTO Education (Education_Id, Employee_Id, Degree, Graduation_Year)
VALUES (18.10.'M.TECH'.2014):
INSERT INTO Education (Education Id, Employee Id, Degree, Graduation Year)
VALUES (19,3,'M.TECH',2011);
                            /*Employee Department Details*/
CREATE TABLE Department (
  Department_Id int(5),
  Department_Name VARCHAR(30),
 constraint primary key(Department Id)):
INSERT INTO Department ( Department_Id , Department_Name )
VALUES (1,'Human Resources');
INSERT INTO Department ( Department_Id , Department_Name )
VALUES (2,'Software Development');
INSERT INTO Department ( Department_Id , Department_Name )
VALUES (3,'Data Analysis');
INSERT INTO Department ( Department Id , Department Name )
VALUES (4,'Data Science'):
INSERT INTO Department ( Department_Id , Department_Name )
VALUES (5, 'Business Intelligence');
INSERT INTO Department ( Department_Id , Department_Name )
VALUES (6,'Data Engineering');
INSERT INTO Department ( Department Id , Department Name )
VALUES (7,'Manufacturing'):
INSERT INTO Department ( Department_Id , Department_Name )
VALUES (8,'Quality Control');
INSERT INTO Department (Department_Id, Department_Name)
VALUES (9,'Quality Control'):
INSERT INTO Department ( Department Id , Department Name )
VALUES (10, 'Software Development');
                            /*Department Project Details */
CREATE TABLE DepartmentProject(
 Department Id int(9),
Project_Id int(9),
CONSTRAINT PRIMARY KEY (Department_Id));
alter table DepartmentProject add Project_name varchar(20);
alter table DepartmentProject add Project_Description VARCHAR(50);
INSERT INTO DepartmentProject(Department Id, Project Id, Project name, Project Description)
VALUES (1,21,'River Construction','water resources projects');
INSERT INTO DepartmentProject( Department Id, Project Id, Project name, Project Description )
```

VALUES (2,22, 'Palace Construction',' need to repair palace');

INSERT INTO DepartmentProject(Department_Id, Project_Id , Project_name ,Project_Description)

VALUES (3,23, 'Town Construction', 'Build new roads');

 $INSERT\ INTO\ DepartmentProject(\ Department_Id,\ Project_Id\ ,\ Project_name\ ,Project_Description\)$

VALUES (4,24,'River Construction','water resources projects');

INSERT INTO DepartmentProject(Department_Id, Project_Id , Project_name, Project_Description)

VALUES (5,25,'Palace Constraction',' need to repair palace');

INSERT INTO DepartmentProject(Department_Id, Project_Id, Project_name , Project_Description)

VALUES (6,26,'Town Construction','Build new roads');

INSERT INTO DepartmentProject(Department_Id, Project_Id, Project_name, Project_Description)

VALUES (7,27,'River Construction','water resources projects');

 $INSERT\ INTO\ Department Project (\ Department_Id,\ Project_Id,\ Project_name\ ,\ Project_Description\)$

VALUES (8,28,'Palace Constraction',' need to repair palace');

INSERT INTO DepartmentProject(Department_Id, Project_Id, Project_name, Project_Description)

VALUES (9,29,'Town Construction','Build new roads');

 $INSERT\ INTO\ Department Project (\ Department_Id,\ Project_Id, Project_name\ , Project_Description\)$

VALUES (10,30,'River Construction','water resources projects');

/* Account Details */

CREATE TABLE AccountDetails(

Account_Id int(9),

Bank Name VARCHAR(50),

IFSC CODE varchar(16),

Account_number VARCHAR(50),

Employee_Id int(9),

CONSTRAINT Account PK PRIMARY KEY (Account Id),

FOREIGN KEY (Employee_Id)

REFERENCES Employee(Employee_Id));

INSERT INTO AccountDetails (Account_Id, Bank_Name,IFSC_CODE, Account_number, Employee_Id)

VALUES (40,'Bank of India','BOINF0321','B0I326598',1);

INSERT INTO AccountDetails (Account_Id, Bank_Name , IFSC_CODE, Account_number , Employee_Id) VALUES (41,'State Bank Of India','SBINF7854','SBI895432',2);

INSERT INTO AccountDetails (Account_Id, Bank_Name,IFSC_CODE, Account_number, Employee_Id) VALUES (42,'Bank Of Baroda','BOBNF6598','BOB988756',3);

INSERT INTO AccountDetails (Account_Id, Bank_Name , IFSC_CODE, Account_number , Employee_Id) VALUES (43,'State Bank Of India','SBINF2698','SBI154852',4);

INSERT INTO AccountDetails (Account_Id, Bank_Name , IFSC_CODE, Account_number , Employee_Id) VALUES (44,'Bank Of Baroda','BOBNF5678','BOB457854',5);

INSERT INTO AccountDetails (Account_Id, Bank_Name , IFSC_CODE, Account_number , Employee_Id) VALUES (45,'Punjab National Bank','PUNBF9510','PNB257896',6);

INSERT INTO AccountDetails (Account_Id, Bank_Name , IFSC_CODE, Account_number , Employee_Id) VALUES (46,'State Bank Of India','SBINF7530','SBI789545',7);

INSERT INTO AccountDetails (Account_Id, Bank_Name , IFSC_CODE, Account_number , Employee_Id) VALUES (47,'Punjab National Bank','PUNBF6540','PNB985624',8);

INSERT INTO AccountDetails (Account_Id, Bank_Name , IFSC_CODE, Account_number , Employee_Id) VALUES (48,'Bank Of Baroda','BOBNF1573','BOB136587',9);

INSERT INTO AccountDetails (Account_Id, Bank_Name , IFSC_CODE, Account_number , Employee_Id) VALUES (49,'ICICI Bank','ICICI0691','ICI698715',10);

```
/* Salary Details*/
```

```
CREATE TABLE Salary(
Salary Id int(9),
Gross_Salary int(9),
Hourly_Pay int(9),
State_Tax int(9),
Federal_Tax int(9),
Account Id int(9),
CONSTRAINT PRIMARY KEY (Salary_Id)
);
INSERT INTO Salary (Salary Id, Gross_Salary, Hourly_Pay, State_Tax, Federal_Tax, Account_Id)
VALUES (1.57600.30,200,1000.40);
INSERT INTO Salary (Salary_Id, Gross_Salary, Hourly_Pay, State_Tax, Federal_Tax, Account_Id)
VALUES (2,76800,40,300,1300,41);
INSERT INTO Salary (Salary Id, Gross Salary, Hourly Pay, State Tax, Federal Tax, Account Id)
VALUES (3,96000,50,400,1500,42);
INSERT INTO Salary (Salary_Id, Gross_Salary, Hourly_Pay, State_Tax, Federal_Tax, Account_Id)
VALUES (4,115200,60,500,1700,43);
INSERT INTO Salary (Salary Id, Gross Salary, Hourly Pay, State Tax, Federal Tax, Account Id)
VALUES (5,57600,30,200,1000,44);
INSERT INTO Salary (Salary Id, Gross Salary, Hourly Pay, State Tax, Federal Tax, Account Id)
VALUES (6.76800.40,300,1300.45);
INSERT INTO Salary (Salary_Id, Gross_Salary, Hourly_Pay, State_Tax, Federal_Tax, Account_Id)
VALUES (7,96000,50,400,1500,46):
INSERT INTO Salary (Salary Id, Gross Salary, Hourly Pay, State Tax, Federal Tax, Account Id)
VALUES (8,115200,60,500,1700,47);
INSERT INTO Salary (Salary Id., Gross Salary, Hourly Pay, State Tax, Federal Tax, Account Id)
VALUES (9,57600,30,200,1000,48);
INSERT INTO Salary (Salary Id, Gross Salary, Hourly Pay, State Tax, Federal Tax, Account Id)
VALUES (10,76800,40,300,1300,49);
show tables:
select* from Department;
                                   /*Employee Attendance */
CREATE TABLE Employee Attendance(
Employee_Id int(9),
Attendance_Id int(9),
Hours_Worked varchar(9),
CONSTRAINT PRIMARY KEY (Employee_Id) );
INSERT INTO Employee Attendance (Employee Id., Attendance Id., Hours Worked)
VALUES (1.90.21):
INSERT INTO Employee Attendance (Employee Id, Attendance Id, Hours Worked)
VALUES (2,91,20);
INSERT INTO Employee_Attendance ( Employee_Id , Attendance_Id , Hours_Worked )
VALUES (3,92,30);
INSERT INTO Employee Attendance (Employee Id, Attendance Id, Hours Worked)
VALUES (4,93,40);
INSERT INTO Employee_Attendance ( Employee_Id , Attendance_Id , Hours_Worked )
VALUES (5,94,45):
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```
INSERT INTO Employee Attendance (Employee Id, Attendance Id, Hours Worked)
VALUES (6,95,48);
INSERT INTO Employee Attendance (Employee Id, Attendance Id, Hours Worked)
VALUES (7.96,28):
INSERT INTO Employee_Attendance (Employee_Id, Attendance_Id, Hours_Worked)
VALUES (8.97.19):
INSERT INTO Employee Attendance (Employee Id, Attendance Id, Hours Worked)
VALUES (9,98,23);
INSERT INTO Employee Attendance (Employee Id , Attendance Id , Hours Worked )
VALUES (10,99,27);
                                   /* Employee leave */
CREATE TABLE Employee Leave(
Employee_Id int(9),
Leave starting date int(10),
Leave_ending_date int(10),
 Reason varchar(100).
CONSTRAINT PRIMARY KEY (Employee Id)
);
INSERT INTO Employee Leave (Employee Id, Leave starting date, Leave ending date, Reason)
VALUES (1, '12-09-21', '13-09-21', 'Fever');
INSERT INTO Employee_Leave (Employee_Id, Leave_starting_date, Leave_ending_date, Reason)
VALUES (2,'13-09-21', '15-09-21', 'Going Outside');
INSERT INTO Employee Leave (Employee Id, Leave starting date, Leave ending date, Reason)
VALUES (3,'14-09-21', '17-09-21', 'For Rain');
INSERT INTO Employee Leave (Employee Id, Leave starting date, Leave ending date, Reason)
VALUES (4,'15-09-21', '16-09-21', 'Shaadi');
INSERT INTO Employee Leave (Employee Id, Leave starting date, Leave ending date, Reason)
VALUES (5,'16-09-21', '18-09-21', 'Personal problem');
INSERT INTO Employee Leave (Employee Id, Leave starting date, Leave ending date, Reason)
VALUES (6, '17-09-21', '19-09-21', 'Doctor appointment');
INSERT INTO Employee_Leave (Employee_Id, Leave_starting_date, Leave_ending_date, Reason)
VALUES (7,'18-09-21', '22-09-21', 'Day Off');
INSERT INTO Employee Leave (Employee Id, Leave starting date, Leave ending date, Reason)
VALUES (8,'19-09-21', '23-09-21', 'Party');
INSERT INTO Employee_Leave (Employee_Id, Leave_starting_date, Leave_ending_date, Reason)
VALUES (9,'20-09-21', '21-09-21', 'Honneymoon');
INSERT INTO Employee Leave (Employee Id, Leave starting date, Leave ending date, Reason)
```

VALUES (10,'21-09-21', '22-09-21', 'Fever');

4 Output -Tables :

Account-details:

Account_Id	Bank_Name	IFSC_CODE	Account_number	Employee_Id
40	Bank of India	BOINF0321	BOI326598	1
41	State Bank Of India	SBINF7854	SBI895432	2
42	Bank Of Baroda	BOBNF6598	BOB988756	3
43	State Bank Of India	SBINF2698	SBI154852	4
44	Bank Of Baroda	BOBNF5678	BOB457854	5
45	Punjab National Bank	PUNBF9510	PNB257896	6
46	State Bank Of India	SBINF7530	SBI789545	7
47	Punjab National Bank	PUNBF6540	PNB985624	8
48	Bank Of Baroda	BOBNF1573	BOB136587	9
49	ICICI Bank	ICICI0691	ICI698715	10

Employee Attendance:

Employee_Id	Attendance_Id	Hours_Worked
1	90	21
2	91	20
3	92	30
4	93	40
5	94	45
6	95	48
7	96	28
8	97	19
9	98	23
10	99	27

Department:

Department_Name
Human Resources
Software Development
Data Analysis
Data Science
Business Intelligence
Data Engineering
Manufacturing
Quality Control
Quality Control
Software Development

<u>Department-Project :</u>

Department_Id	Project_Id	Project_name	Project_Description
1	21	River Construction	water resources projects
2	22	Palace Constraction	need to repair palace
3	23	Town Construction	Build new roads
4	24	River Construction	water resources projects
5	25	Palace Constraction	need to repair palace
6	26	Town Construction	Build new roads
7	27	River Construction	water resources projects
8	28	Palace Constraction	need to repair palace
9	29	Town Construction	Build new roads
10	30	River Construction	water resources projects

Education:

Education_Id	Employee_Id	Degree	Graduation_Year
10	1	MBA	2017
11	2	MCA	2019
12	4	B.TECH	2011
13	8	MS	2015
14	9	Bachelor	2013
15	7	Bachelor	2008
16	5	MBAr	2012
17	6	BBA	2015
18	10	M.TECH	2014
19	3	M.TECH	2011
	_		

Employee:

Employee_Id	First_Name	Last_Name	Hire_Date	City	State
1	Rajeev	Joshi	2014-04-21	Haridwar	Uttarakhand
2	Pankaj	Gurian	2019-05-21	Mujaffarpur	Bihar
3	Sandeep	Meena	2013-08-21	Varanashi	Varanashi
4	Jay	Kumar soni	0009-09-21	Sikar	Rajasthan
5	Alok	Oran	2016-10-21	Sikar	rajasthan
6	Varun	Choudhary	2017-10-21	Ujjain	Madhya-Pradesh
7	Ritik	Saini	0005-11-21	Jodhpur	Rajasthan
8	Samannay	Roy	2012-12-21	Kharagpur	West-Bengal
9	Avinash	Kumar	2029-12-21	chapra	Bihar
10	Ayush	Kumar	2021-06-22	San Francisco	California

Leave:

Employee_Id	Leave_starting_date	Leave_ending_date	Reason
1	2012-09-21	2013-09-21	Fever
2	2013-09-21	2015-09-21	Going Outside
3	2014-09-21	2017-09-21	For Rain
4	2015-09-21	2016-09-21	Shaadi
5	2016-09-21	2018-09-21	Personal problem
6	2017-09-21	2019-09-21	Doctor appointment
7	2018-09-21	2022-09-21	Day Off
8	2019-09-21	2023-09-21	Party
9	2020-09-21	2021-09-21	Honneymoon
10	2021-09-21	2022-09-21	Fever

Salary:

Salary_Id	Gross_Salary	Hourly_Pay	State_Tax	Federal_Tax	Account_Id
1	57600	30	200	1000	40
2	76800	40	300	1300	41
3	96000	50	400	1500	42
4	115200	60	500	1700	43
5	57600	30	200	1000	44
6	76800	40	300	1300	45
7	96000	50	400	1500	46
8	115200	60	500	1700	47
9	57600	30	200	1000	48
10	76800	40	300	1300	49

All details

Employee_Id	First_Name	Last_Name	Hire_Date	City	State	Education_Id	Degree	Graduation_Year	Department_Id	Department_Name	Project_Id	Project_name	Project_Description
1	Rajeev	Joshi	4/21/2014	Haridwar	Uttarakhand	10	MBA	2017	1	Human Resources	21	River Construction	water resources projects
2	Pankaj	Gurian	5/21/2019	Mujaffarpur	Bihar	11	MCA	2019	2	Software Development	22	Palace Constraction	need to repair palace
3	Sandeep	Meena	8/21/2013	Varanashi	Varanashi	12	M.TECH	2011	3	Data Analysis	23	Town Construction	Build new roads
4	Jay	Kumar soni	9/9/2021	Sikar	Rajasthan	13	B.TECH	2011	4	Data Science	24	River Construction	water resources projects
5	Alok	Oran	10/21/2016	Sikar	rajasthan	14	MBAr	2012	5	Business Intelligence	25	Palace Constraction	need to repair palace
6	Varun	Choudhary	10/21/2017	Ujjain	Madhya-Pradesh	15	BBA	2015	6	Data Engineering	26	Town Construction	Build new roads
7	Ritik	Saini	5/11/2021	Jodhpur	Rajasthan	16	Bachelor	2008	7	Manufacturing	27	River Construction	water resources projects
8	Samannay	Roy	12/21/2012	Kharagpur	West-Bengal	17	MS	2015	8	Quality Control	28	Palace Constraction	need to repair palace
9	Avinash	Kumar	12/21/2029	chapra	Bihar	18	Bachelor	2013	9	Quality Control	29	Town Construction	Build new roads
10	Ayush	Kumar	6/22/2021	San Francisco	California	19	M.TECH	2014	10	Software Development	30	River Construction	water resources projects

Account_Id	Bank_Name	IFSC_CODE	Account_number	Salary_Id	Gross_Salary	Hourly_Pay	State_Tax	Federal_Tax	Account_Id_[0]	Attendance_Id	Hours_Worked	Leave_starting_date	Leave_ending_date	Reason
40	Bank of India	BOINF0321	BOI326598	1	57600	30	200	1000	40	90	21	9/21/2012	9/21/2013	Fever
41	State Bank Of India	SBINF7854	SBI895432	2	76800	40	300	1300	41	91	20	9/21/2013	9/21/2015	Going Outside
42	Bank Of Baroda	BOBNF6598	BOB988756	3	96000	50	400	1500	42	92	30	9/21/2014	9/21/2017	For Rain
43	State Bank Of India	SBINF2698	SBI154852	4	115200	60	500	1700	43	93	40	9/21/2015	9/21/2016	Shaadi
44	Bank Of Baroda	BOBNF5678	BOB457854	5	57600	30	200	1000	44	94	45	9/21/2016	9/21/2018	Personal problem
45	Punjab National Bank	PUNBF9510	PNB257896	6	76800	40	300	1300	45	95	48	9/21/2017	9/21/2019	Doctor appointment
46	State Bank Of India	SBINF7530	SBI789545	7	96000	50	400	1500	46	96	28	9/21/2018	9/21/2022	Day Off
47	Punjab National Bank	PUNBF6540	PNB985624	8	115200	60	500	1700	47	97	19	9/21/2019	9/21/2023	Party
48	Bank Of Baroda	BOBNF1573	BOB136587	9	57600	30	200	1000	48	98	23	9/21/2020	9/21/2021	Honneymoon
49	ICICI Bank	ICICI0691	ICI698715	10	76800	40	300	1300	49	99	27	9/21/2021	9/21/2022	Fever