



Faculty of Science and Technology
Department of Information Technology

IT3210

Database management system

Topic: Employee Attendance Management System

Submitted to
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Introduction

Nowadays, the world has evolved into digital ages with advance technology. Technology has help to ease the daily work of people and also help to eliminate the error caused by human in business field. Employee attendance system is one of technology that is used to help ease the employee's attendance procedure, provided accurate information, and maximize employee's performance. The employee attendance system is very helpful to manage and maintain the attendance of employees. The fundamental reason for this system is to provide details of the employees and overseeing the participation or attendance of the employees and generate attendance report. The employee attendance system is a simple approach to monitor the attendance for schools, group association and companies. The system calculates the numbers of working days and absent days. And the system provides output to the human resource department. This project will focus on how the system will work. It also shows the design of the system and how it is implemented and integrated into the business.

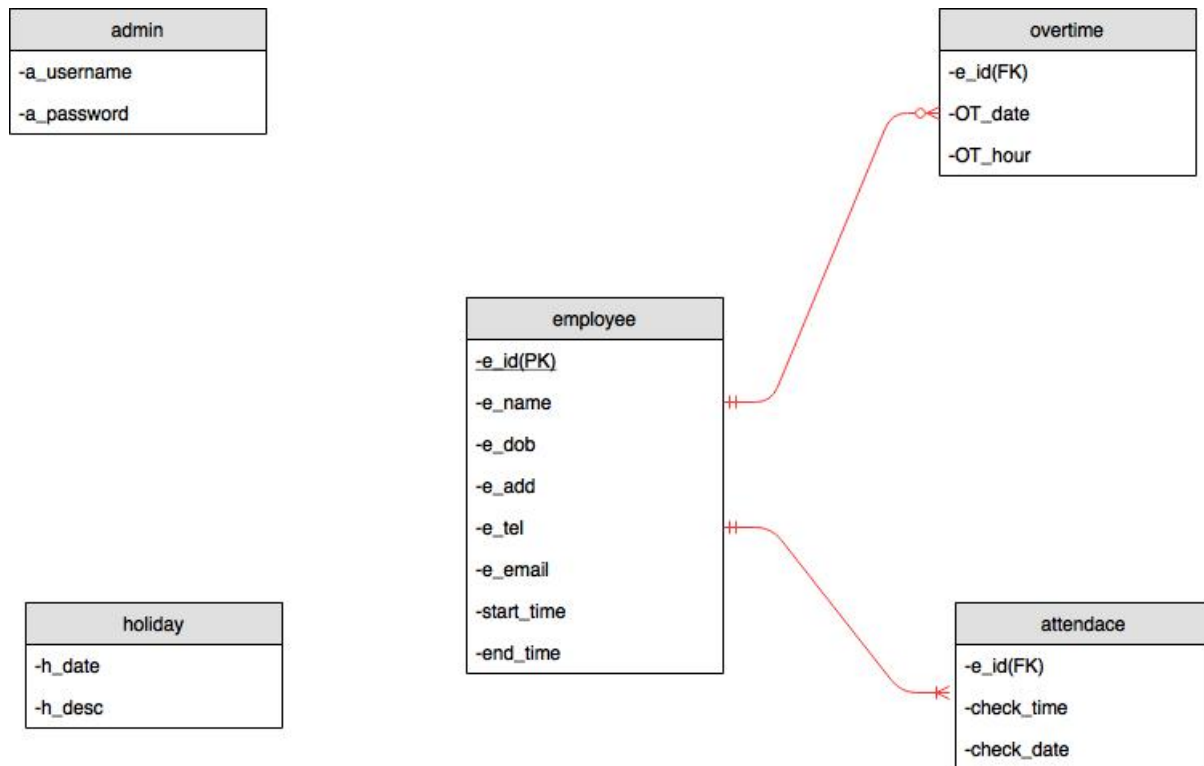
Scope

1. Register/Insert/Add- Admin can insert or add a new employee's personal information in the attendance system.
2. Delete- The system will be available for admin to delete the information.
3. Update/Modify- Admin can update the employee's information.
4. Search- The admin will be able to search for any existing employee and the employee's record in the system.
5. Check in -Check out- It will show on the time they arrived and left work. They tap the card as many times as they want and the system will only consider the first scan as check in and the last scan as check out.
6. Save/Record- System will be able to save the user's record and present to admin at the desired time.
7. Over time - Admin will be able to add over time for employee according to the attendance report.
8. Late check ins and Early check outs- The system will record as a late check in if the employee check-in.
9. Report - Admin can see many types of reports such as: attendance report, overtime report, late check in report and early check out.
10. The Interface is application based.

Limitations

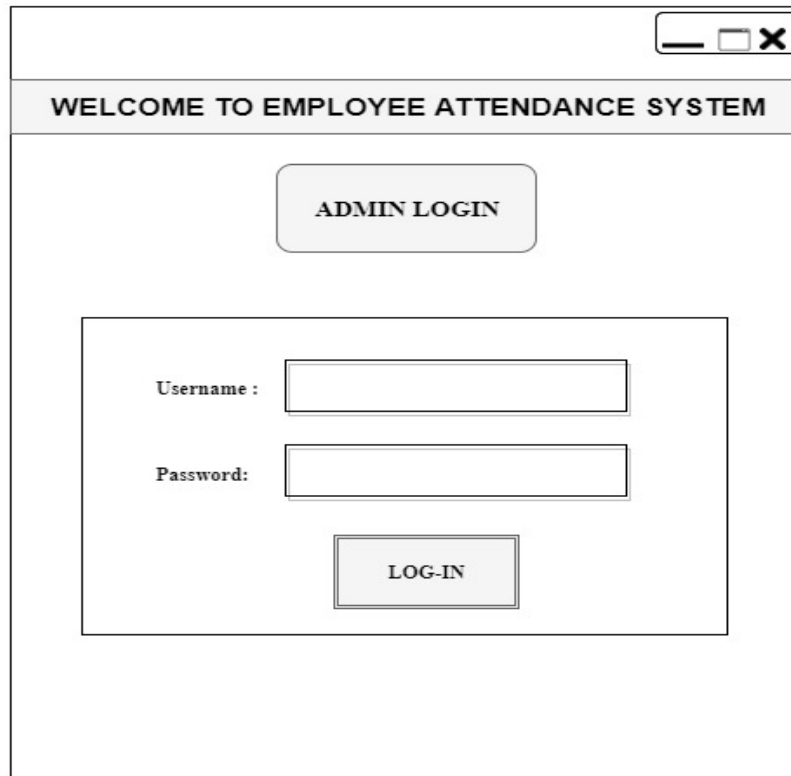
- 1- Our system will not consider night shifts in particular.
- 2- We will not calculate the salary and the wages of the employees.
- 3- Admin should manually add the overtime and holiday.

ER diagram



Interface design and SQL commands

- Only admin can add, search, delete and search the employee's information.
First, Admin will see the login page.



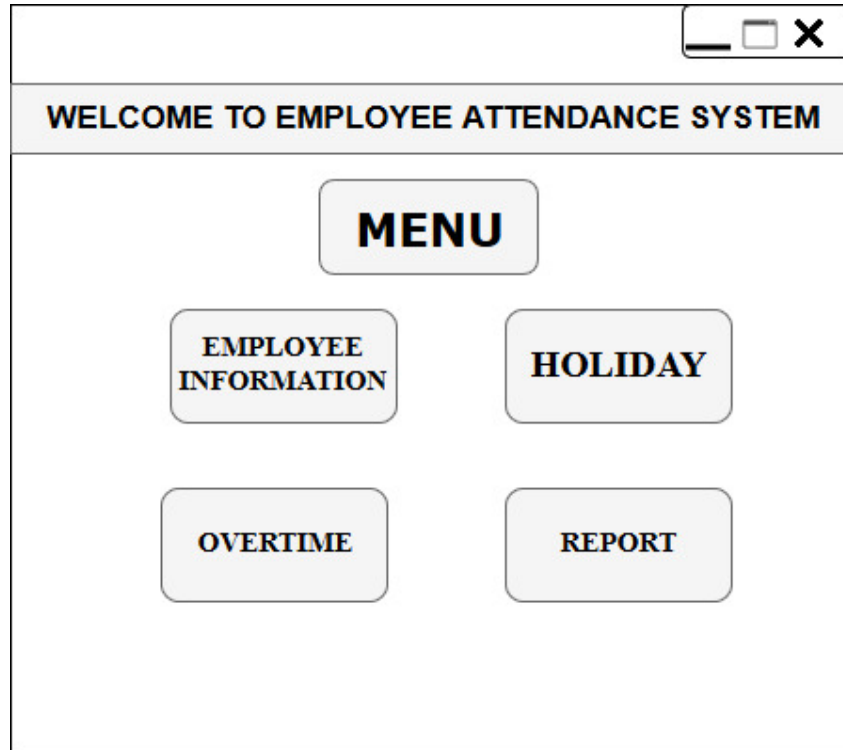
The image shows a graphical user interface for an "Employee Attendance System". At the top, there is a title bar with standard window controls (minimize, maximize, close) and the text "WELCOME TO EMPLOYEE ATTENDANCE SYSTEM". Below the title bar, there is a large button labeled "ADMIN LOGIN". Underneath this button, there is a rectangular container with a double border. Inside this container, there are two labels: "Username :" and "Password:". Each label is followed by a text input field. Below the input fields, there is a button labeled "LOG-IN".

Admin Login

```
SELECT *FROM admin
```

```
WHERE a_username={Username} AND a_password={Password}
```

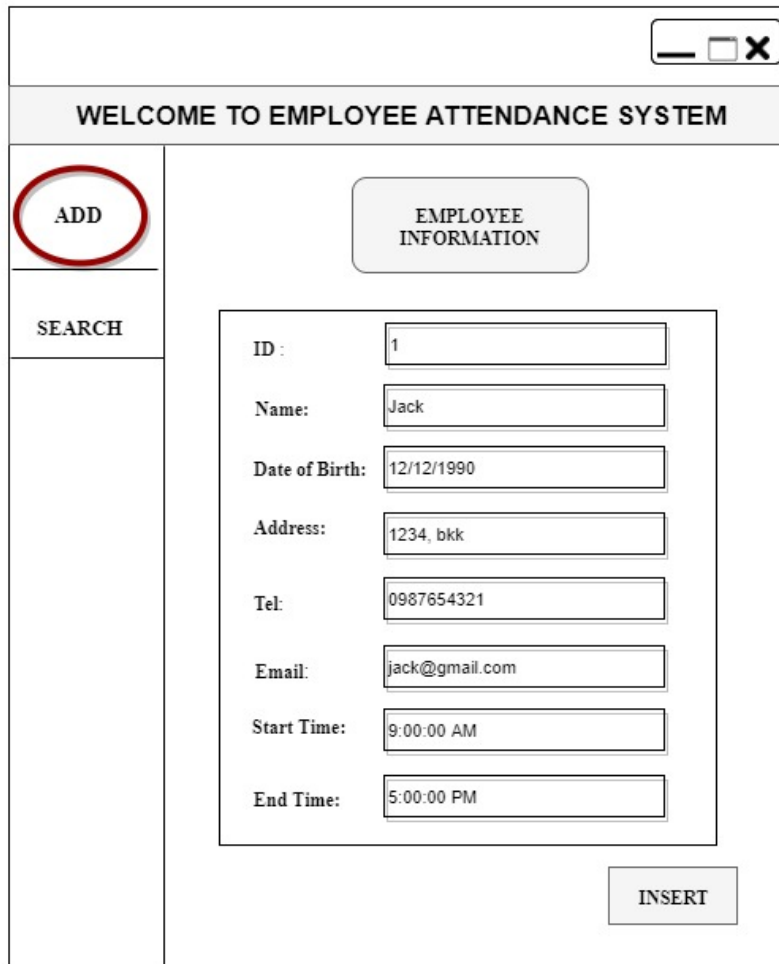
- After Admin logged in, the main menu will show as below.



- From main menu, admin can choose the following button. For example,



- When Admin clicks employee information button, it will shows the employee's information. And then, he can fills in the information accordingly.



The screenshot shows a window titled "WELCOME TO EMPLOYEE ATTENDANCE SYSTEM". On the left is a sidebar with two buttons: "ADD" (circled in red) and "SEARCH". The main area contains a form titled "EMPLOYEE INFORMATION". The form has the following fields:

ID :	1
Name:	Jack
Date of Birth:	12/12/1990
Address:	1234, bkk
Tel:	0987654321
Email:	jack@gmail.com
Start Time:	9:00:00 AM
End Time:	5:00:00 PM

At the bottom right of the form area is an "INSERT" button.

For adding Employee's information,

```
INSERT INTO employee ( e_id, e_name, e_dob, e_add, e_tel, e_email, start_time,
end_time) VALUES ('1', 'Jack', '12/12/1990', '1234,bkk', '0987654321',
'jack@gmail.com', '9AM', '5PM')
```


Output is shown as below:

employee		attendance						
	e_id	e_name	e_dob	e_add	e_tele	e_email	start_time	end_time
+	1	Jack	12/12/1990	1234, bkk	987654321	jack@gmail.com	9:00:00 AM	5:00:00 PM
+	2	Bean	1/5/1985	564, bkk	985462153	bean@gmail.com	9:00:00 AM	5:00:00 PM
+	3	Rocky	6/9/1995	985, bkk	868547254	rocky@gmail.com	9:00:00 AM	5:00:00 PM
+	4	Kenji	7/7/1991	654, bkk	689545214	kenji@gmail.com	9:00:00 AM	5:00:00 PM
+	5	Lucky	6/2/1989	655, bkk	658458654	lucky@gmail.com	9:00:00 AM	5:00:00 PM
*								

For searching Employee's information,

WELCOME TO EMPLOYEE ATTENDANCE SYSTEM

ADD

SEARCH

EMPLOYEE INFORMATION

ID :

Name:

Address:

Tel:

Email:

Start Time:

End Time:

DELETE

UPDATE

OK

```
SELECT * FROM employee WHERE e_id = 1
```

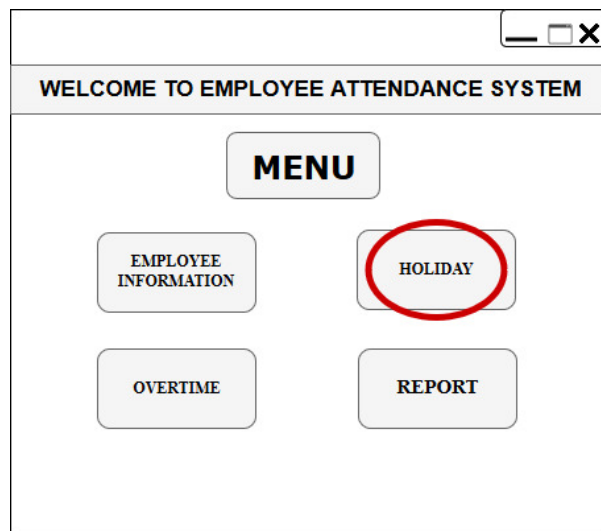
For deleting Employee's information,

```
DELETE FROM employee WHERE e_id = {ID}
```

For Updating Employee's information,

```
UPDATE employee SET e_name = {Name}, e_dob = {Date of Birth}, e_add= {Address}, e_tel= {Tel}, e_email= {Email}, start_time= {Start Time}, end_time= {End Time} WHERE e_id = {ID}
```

When Admin clicks on Holiday,



- Admin will see the holiday report and he can add holiday date and holiday description.

For adding holiday

INSERT INTO holiday (h_date = {Holiday Date}, h_desc = { Holiday Description})

Output is shown as below:

holiday	
h_date	h_desc
10/23/2017	Chulalongkorn Memorial Day
*	

- Admin also can update or delete the holiday entry as well.

WELCOME TO EMPLOYEE ATTENDANCE SYSTEM

ADD

SEARCH

Holiday

Date: 10/23/2017

Description: Chulalongkorn Memorial Day

EDIT DELETE OK

For search holiday

```
SELECT * FROM holiday WHERE h_desc = {Description}
```

For delete holiday

```
DELETE FROM holiday WHERE h_desc = {Description}
```

For update holiday

```
UPDATE holiday SET h_date = {Date}, h_desc = {Description} WHERE h_desc = {desc}
```

- When admin clicks overtime,

WELCOME TO EMPLOYEE ATTENDANCE SYSTEM

MENU

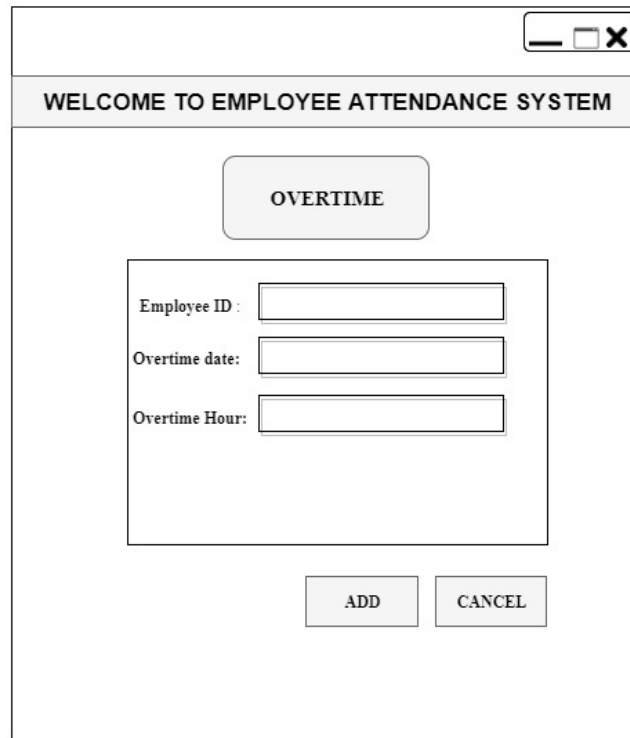
EMPLOYEE
INFORMATION

HOLIDAY

OVERTIME

REPORT

The overtime tab will appear,



The screenshot shows a window titled "WELCOME TO EMPLOYEE ATTENDANCE SYSTEM". Inside the window, there is a tab labeled "OVERTIME". Below the tab, there is a form with three input fields: "Employee ID :", "Overtime date:", and "Overtime Hour:". At the bottom of the form, there are two buttons: "ADD" and "CANCEL".

Admin can add the employee's overtime date and overtime hour.

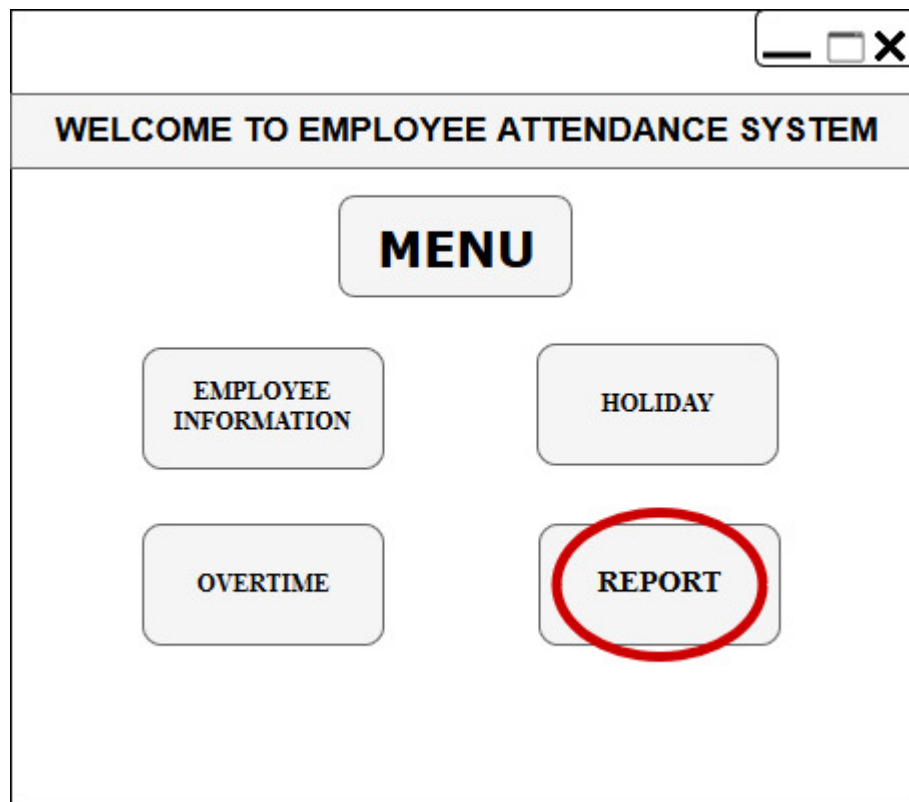
For adding Employee's overtime

```
INSERT INTO overtime (e_id = {Employee ID} , OT_date= {Overtime_date},  
OT_hour= {Overtime Hour} )
```

Output is shown as below:

OVERTIME REPORT		
ID	OVERTIME_DATE	HOUR
3	10/15/2017	1
4	10/15/2017	2

- When admin clicks the report,



There are 4 more tab for him to choose such as Attendance report, Early check out report, late check in report, and overtime report.

WELCOME TO EMPLOYEE ATTENDANCE SYSTEM

REPORT

Attendance Report

Early Report

Late Report

Overtime Report

WELCOME TO EMPLOYEE ATTENDANCE SYSTEM

LATE REPORT

ID:

DATE:

OK

CANCEL

Late report by date

```
SELECT SUBQUERY.e_id, DateDiff ( "n", employee.start_time,
SUBQUERY.check_in)/60 AS Late, SUBQUERY.check_date

FROM (SELECT e_id, Min(check_time) AS check_in, Max(check_time) AS
check_out, check_date FROM attendance GROUP BY check_date, e_id) AS
SUBQUERY, employee

WHERE DateDiff ( "n",employee.start_time, SUBQUERY.check_in) > 0 AND
SUBQUERY.check_date = #10/15/2017 #

GROUP BY SUBQUERY.e_id, DateDiff ( "n", employee.start_time,
SUBQUERY.check_in), SUBQUERY.check_date;
```

Late report by ID

```
SELECT SUBQUERY.e_id, DateDiff ( "n", employee.start_time,
SUBQUERY.check_in)/60 AS Late, SUBQUERY.check_date

FROM (SELECT e_id, Min(check_time) AS check_in, Max(check_time) AS
check_out, check_date FROM attendance GROUP BY check_date, e_id) AS
SUBQUERY, employee

WHERE DateDiff ( "n",employee.start_time, SUBQUERY.check_in) > 0 AND
SUBQUERY.e_id = 1

GROUP BY SUBQUERY.e_id, DateDiff ( "n", employee.start_time,
SUBQUERY.check_in), SUBQUERY.check_date;
```

Overtime report

```
SELECT e_id AS ID, OT_date AS OVERTIME_DATE, OT_hour AS [HOUR]

FROM overtime

GROUP BY OT_DATE, OT_hour, e_id;
```

Attendance by date

```
SELECT attendance.e_id, Min(attendance.check_time) AS check_in,  
Max(attendance.check_time) AS check_out, attendance.check_date  
  
FROM attendance  
  
WHERE (((attendance.[check_date])=#10/15/2017#))  
  
GROUP BY attendance.e_id, attendance.check_date;
```

Attendance by ID

```
SELECT e_id, Min(check_time) AS check_in, Max(check_time) AS check_out,  
check_date  
  
FROM attendance  
  
WHERE e_id = 1  
  
GROUP BY check_date, e_id;
```

Early checkout by date

```
SELECT SUBQUERY.e_id, DateDiff ( "n", employee.end_time,  
SUBQUERY.check_out)*-1 AS EarlyCheckOut, SUBQUERY.check_date  
  
FROM (SELECT e_id, Min(check_time) AS check_in, Max(check_time) AS  
check_out, check_date FROM attendance GROUP BY check_date, e_id) AS  
SUBQUERY, employee  
  
WHERE DateDiff ( "n",employee.end_time, SUBQUERY.check_out)*-1 > 0  
AND SUBQUERY.check_date = #10/15/2017 #  
  
GROUP BY SUBQUERY.e_id, DateDiff ( "n", employee.end_time,  
SUBQUERY.check_out), SUBQUERY.check_date;
```

Early checkout by ID

```
SELECT SUBQUERY.e_id, DateDiff ( "n", employee.end_time,  
SUBQUERY.check_out)*-1 AS EarlyCheckOut, SUBQUERY.check_date  
  
FROM (SELECT e_id, Min(check_time) AS check_in, Max(check_time) AS  
check_out, check_date FROM attendance GROUP BY check_date, e_id) AS  
SUBQUERY, employee  
  
WHERE DateDiff ( "n",employee.end_time, SUBQUERY.check_out)*-1 > 0  
AND SUBQUERY.e_id = 4  
  
GROUP BY SUBQUERY.e_id, DateDiff ( "n", employee.end_time,  
SUBQUERY.check_out), SUBQUERY.check_date;
```

Output of employee check in:

attendance		
e_id	check_time	check_date
1	9:00:00 AM	10/15/2017
1	9:30:00 AM	10/15/2017
1	10:00:00 AM	10/15/2017
1	4:00:00 PM	10/15/2017
2	8:00:00 AM	10/15/2017
2	9:30:00 AM	10/15/2017
2	11:00:00 AM	10/15/2017
2	5:00:00 PM	10/15/2017
3	9:30:00 AM	10/15/2017
3	6:00:00 PM	10/15/2017
4	10:00:00 AM	10/15/2017
4	7:00:00 PM	10/15/2017

Output of attendance report by date:

ATTENDANCE_DATE			
e_id	check_in	check_out	check_date
1	9:00:00 AM	4:00:00 PM	10/15/2017
2	8:00:00 AM	5:00:00 PM	10/15/2017
3	9:30:00 AM	6:00:00 PM	10/15/2017
4	10:00:00 AM	7:00:00 PM	10/15/2017

Output of late check in report by date :

LATE REPORT_DATE		
e_id	Late	check_date
3	30	15-Oct-17
4	60	15-Oct-17

Output of early check out by date :

Earlycheck_DATE		
e_id	EarlyCheckOut	check_date
1	60	10/15/2017

Output of overtime report :

OVERTIME REPORT		
ID	OVERTIME_DATE	HOUR
3	10/15/2017	1
4	10/15/2017	2