UiTM EVENT BOOKING SYSTEM
Final Report

Version 1.0

SEMESTER FEB 2019 – JUL 2019

GROUP: CS1434A

NADIYA BINTI RAHMAT,2017488384

UMI ASYIQIN BINTI MD AMIR,2017289666

NUR AMIENINA BINTI HALIMI, 2017451624

NURSYARAH NISA BINTI MD NAZRI,2017289892

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Final Report

1. Introduction

Compared to other universities, Universiti Teknologi Mara (UiTM) also have many events organized by students. To do that, they need to have a proper system which can make the booking process for any events easier. Everyone can access this system but only a lecturer can access the booking part. Students can check the availability of date and location before they organize an event. This system is used to help them manage their event, by allocate the data or information about students and advisors that involved from the club before they book any location in UiTM.

1.1 Purpose

1. To make sure the booking process for any events are done easily.
2. To check the availability of date and locations so that the event will not be overlapped with other events.
3. To help club committee members in choosing a suitable date for the nest semester events.

1.2 Scope

The main content that are used in our project are club members which is students and lecturers. There are eight entities involved in this database system. The entities are event, facility, lecturer, person in charge, location, branch, provide and book. This system is used to check updates and booking the available date and locations before organizing any events. It is mainly use for those who supposed to handle the events. This system only used the main UiTM campus in Malaysia, which is UiTM Segamat, UiTM Shah Alam, UiTM Puncak Alam, UiTM Machang and UiTM Seri Iskandar.

1.3 References

- **Internet:**
  1) **https://t4tutorials.com/gantt-chart-in-software-project-management/**
  2) **https://www.draw.io/**
  3) **https://www.w3schools.com/**
- Notebook - DB2 SQL Workshop © Copyright IBM Corp. 1999, 2007
- **Lecturer - Sir Mohd Hafizan bin Musa**
- **Textbook- Database System: Design, Implementation, and Management, Eleventh Edition by Carlos Coronel and Steven Morris. © 2015, 2013 Cengange Learning.**

2. Project Overview

2.1 Problem Statement

- Hard to find students and lecturers details that involved.
- Many important events overlapped with other event that used the same hall.
- Hard to detect which hall is suitable to accommodate all students that participate the events.

2.2 Project Scope

1) This database is made to develop a friendly user system for students and lecturers.
2) This database is used for lecturers to book locations for any events.
3) This database is created for club members to check available date before book the locations.

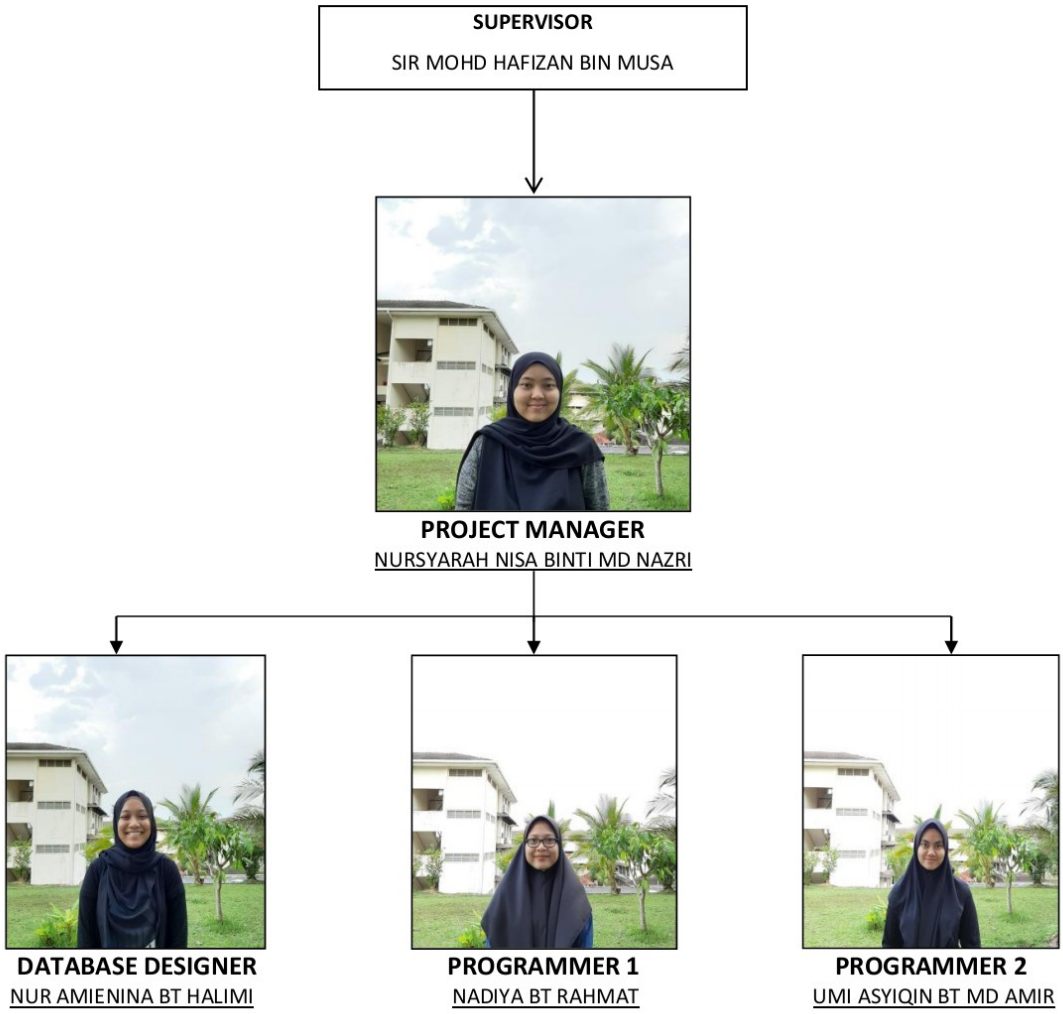
2.3 Project Objectives

The project is designed to achieve the following objectives:

1) To record the event details through this system.
2) To record students' and lecturers' details that involved.
3) To record events date and time.
4) To record which location that can accommodate quantity of students that involved.

3. Project Organization

3.1 Organizational Structure



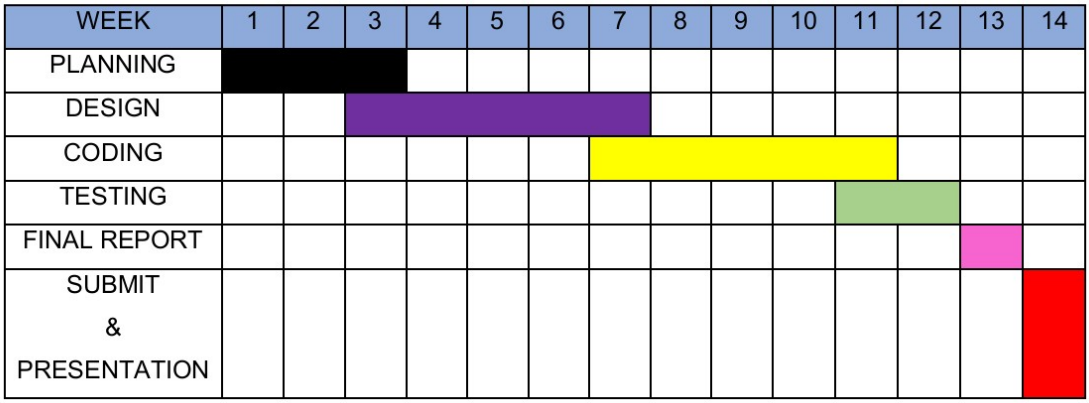
3.2 Roles and Responsibilities

ROLE	RESPONSIBILITY
Supervisor	An individual who in charge of the productivity and actions of a small group of employees.
Project Manager	Person who in charge overall responsibility for the successful in planning, designing, execution, monitoring, controlling of the project.
Database Designer	In charge for defining the detailed database design. It also specific constructs needed to store and retrieve.
Database Programmer	In charge for maintaining and updating computer programs and databases, and writing new code including database management and troubleshooting.

4. Management Process

4.1 Project Plan

4.1.1 Phase Plan and Schedule

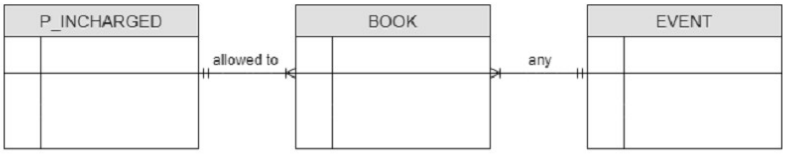


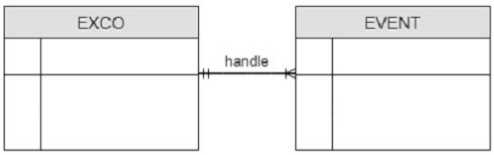
4.1.2 Project Deliverables

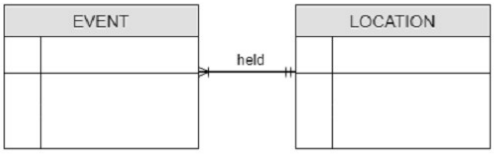
ARTIFACT	SUBMISSION DATE
PROPOSAL SUBMISSION	11 APRIL 2019
FINAL REPORT SUBMISSION	12 JUNE 2019
DEMO PROJECT	12 JUNE 2019

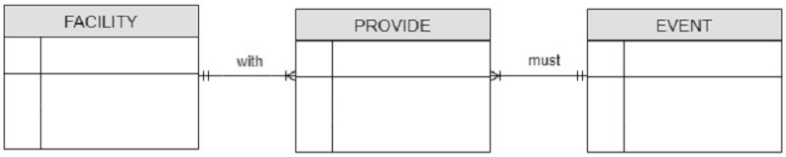
5. Business Rules

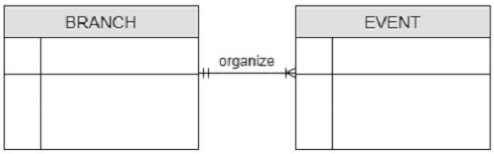
5.1 List of Business Rules







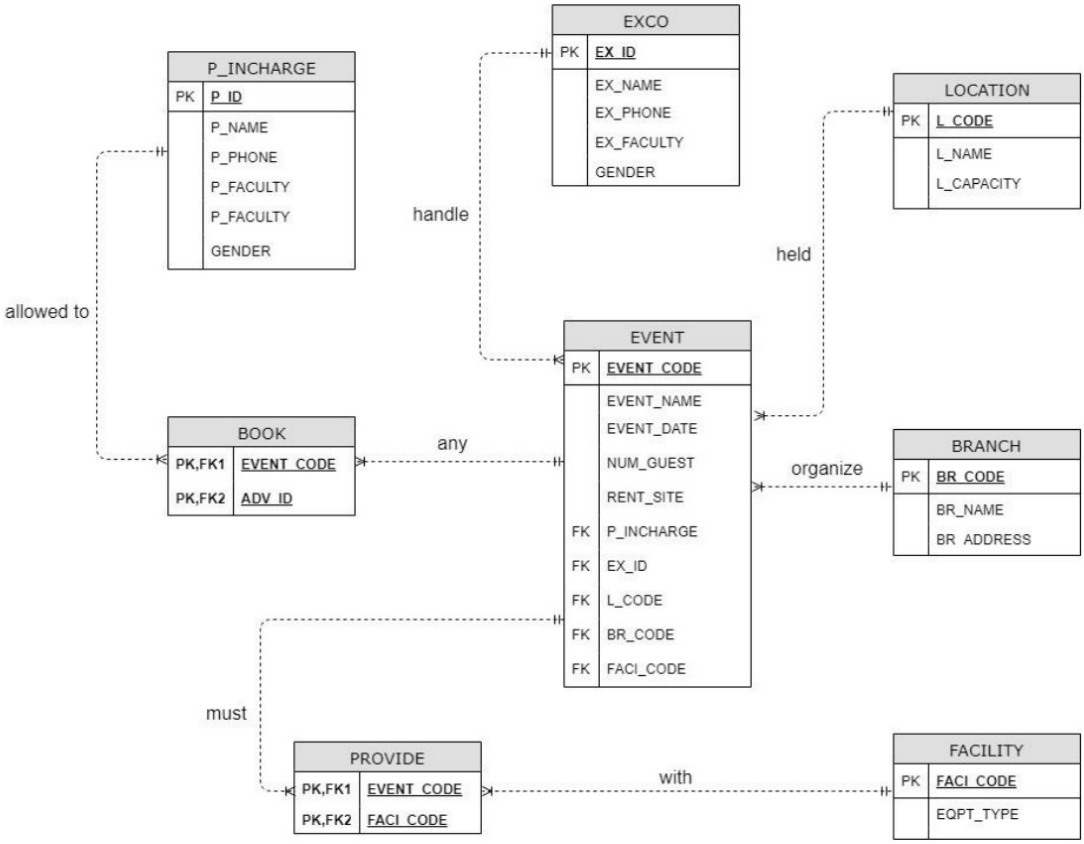




1) A person in charge can book many events; an event can be booked by many persons in charge.
2) An exco can handle an event; many events can be handled by an exco.
3) An event is held in one location; a location can held many events.
4) Many facilities provided for an event; many events were provided with facilities.
5) A branch can organize many events; many events can be organized in a branch.

6. Entity Relationship Diagram

6.1 Complete ER Diagram



7. Sample DB2 Queries and Output

7.1 SIMPLE QUERIES

- List all person in charge ID and person in charge name who's their gender is male (M).

```
SELECT P_ID, P_NAME, GENDER
FROM P_INCHARGE
WHERE GENDER = 'M';
```

P_ID	P_NAME	GENDER
1000	HAFIZAN MUSA	M
1002	MD AMIN	M
1004	MUHD ZAMZURI	M
1006	MOHD SAIFUL BAHRIN	M
1008	MUHD KHAIRUDDIN	M
1009	AZHAMNUDDIN	M
1032	KHUZAIRY AZMAN	M
1033	MUZAKKIR AFIQ	M
1035	ISHAK MALIKI	M
1036	NORDIN AHMAD	M
1038	ADAM KAMAL	M
1039	SYED NAQIUDIN	M
1042	AMIR SALLEH	M
1046	MICHAEL LAU	M
1049	ALIF TAUFIQ	M
1050	KHAIRYIL ANUAR	M

- List ID and name of excos who have character 'A' in his/her name. Then, also display their number phone where the second and third number is 1.

```
SELECT EX_ID, EX_NAME, EX_PHONE
FROM EXCO
WHERE EX_NAME LIKE '%A%'
AND EX_PHONE LIKE '_11%'
ORDER BY EX_NAME;
```

EX_ID	EX_NAME	EX_PHONE
1544	AFIQ QAREEM	111260984
2036	MAHIRAH AYUNI	111217893
3450	SYAHIR SYAUQI	1114569722
5663	SYAZWAN HADIF	1118592652
2055	SYIQIN AZMI	111337652
4551	ZIKRY ZAHID	1112531781

- Display location code, location name and location capacity with the capacity less than or equal to 800. Sort it by location code.

```
SELECT L_CODE, L_NAME, L_CAPACITY
FROM LOCATION
WHERE L_CAPACITY <= 800
ORDER BY L_CODE;
```

L_CODE	L_NAME	L_CAPACITY
A101	DEWAN SRI PERIA	500
A102	DEWAN KULIAH 1	150
A107	SPEAKER CORNER	500
A108	BILIK SEMINAR	150
C453	DEWAN MUQTAMAR 2	800
C454	COURT FUTSAL PERI...	500
D431	SURAU IBNU SINA	800
D432	DK500	500

- List person in charge ID, name and faculty where the ID is between 1000 and 1009. Sort the list by person in charge ID.

```
SELECT P_ID, P_NAME, P_FACULTY
FROM P_INCHARGE
WHERE P_ID BETWEEN 1000 AND 1009
ORDER BY P_ID;
```

P_ID	P_NAME	P_FACULTY
1000	HAFIZAN MUSA	FSKM
1001	SITI NORKHADIJAH	FSKM
1002	MD AMIN	IM
1003	NOR LIYANA	ACC
1004	MUHD ZAMZURI	BM
1005	NURATIRAH	BM
1006	MOHD SAIFUL BAHRIN	
1007	NUR HAFIZAH	BM
1008	MUHD KHAIRUDDIN	ACC
1009	AZHAMNUDDIN	IM

- List ID, name and faculty of all person in charge that in faculty of FSKM, ACC and FSPU. Sort the list by the faculty of person in charge.

```
SELECT P_ID, P_NAME, P_FACULTY
FROM P_INCHARGE
WHERE P_FACULTY IN ('FSKM','ACC','FSPU')
ORDER BY P_FACULTY ASC;
```

P_ID	P_NAME	P_FACULTY
1003	NOR LIYANA	ACC
1008	MUHD KHAIRUDDIN	ACC
1047	AZIRA MAHZAN	ACC
1000	HAFIZAN MUSA	FSKM
1001	SITI NORKHADIJAH	FSKM
1013	UMAIRAH HAFSAN	FSPU
1014	SARAH SAKINAH	FSPU
1048	FARAH HARYANI	FSPU
1050	KHAIRYIL ANUAR	FSPU

7.2 MULTIPLE QUERIES

- For location name which is Dewan Sri Temenggung, display ID and name of excos that involved. List the first 10 data only and sort it by exco's name.

```
SELECT EX.EX_ID, EX.EX_NAME, L.L_NAME
FROM LOCATION L, EXCO EX
WHERE L_NAME = 'DEWAN SRI TEMENGGUNG'
ORDER BY EX.EX_NAME
FETCH FIRST 10 ROWS ONLY;
```

EX_ID	EX_NAME	L_NAME
1544	AFIQ QAREEM	DEWAN SRI TEMENG...
2089	AHMAD HAKHANI	DEWAN SRI TEMENG...
3241	AHMAD SYAKIR	DEWAN SRI TEMENG...
4458	AIDIL FIRDAUS	DEWAN SRI TEMENG...
1126	AINA AQLIAH	DEWAN SRI TEMENG...
5631	AINUL SAKINAH	DEWAN SRI TEMENG...
3329	AMALIA ZAHIRAH	DEWAN SRI TEMENG...
9833	DAYANA IZZATI	DEWAN SRI TEMENG...
4403	FAIRUZ RAMLI	DEWAN SRI TEMENG...
9321	FARID IKHWAN	DEWAN SRI TEMENG...

- From table event and location, display the event and location name with number of guest and capacity provided. Specify it to location capacity that is more than and equal to 2000 and then the number of guests is between 100 and 2000.

```
SELECT E.E_NAME, L.L_NAME, E.NUM_GUEST, L.L_CAPACITY
FROM EVENT E, LOCATION L
WHERE E.L_CODE = L.L_CODE
AND L.L_CAPACITY >= 2000
AND E.NUM_GUEST BETWEEN 100 AND 2000;
```

E_NAME	L_NAME	NUM_GUEST	L_CAPACITY
IFTAR EITH ORPHANS	RUANG SOLAT UTAM...	900	2500
LIGA PREMIER MALA...	STADIUM UiTM SHAH ...	2000	3000
TAYANGAN PATRIOT...	DEWAN AGUNG TUA...	1700	2500
MAJLIS ASPIRASI PE...	DEWAN PAVILION	500	2000
THE ARCHITECTURA...	DEWAN BERLIAN	1500	2000
SOLAT TARAWITH JE...	PARKIR KERETA DAH...	1800	2000

- For equipment type that not in "indoor", list the event name and the equipment type that left. Sequence it by equipment type and only first 10 rows needed.

```
SELECT E.E_NAME, F.EQPT_TYPE
FROM FACILITY F, EVENT E
WHERE E.FACI_CODE = F.FACI_CODE
AND F.EQPT_TYPE NOT IN ('INDOOR')
ORDER BY F.EQPT_TYPE
FETCH FIRST 10 ROWS ONLY;
```

E_NAME	EQPT_TYPE
TEST 2 ECO211	EXAMINATION
TEST 2 MAT233	EXAMINATION
TEST BST171	EXAMINATION
TEST 2 ITT270	EXAMINATION
UJIAN AKHIR CTU555	EXAMINATION
UJIAN AKHIR CTU553	EXAMINATION
KIM CHARITY HUB	OUTDOOR
LIGA PREMIER MALA...	OUTDOOR
ENCHANTING BEAUT...	OUTDOOR
FAMILY DAY	OUTDOOR

- List out name and date of event and the name of branch of UiTM SHAH ALAM. These details can get from table event and branch. Sort it by date of the event.

```
SELECT E.E_NAME, E.E_DATE, B.BR_NAME
FROM BRANCH B, EVENT E
WHERE E.BR_CODE = B.BR_CODE
AND B.BR_NAME = 'UiTM SHAH ALAM'
ORDER BY E_DATE;
```

E_NAME	E_DATE	BR_NAME
FINAL EXAM AAC105	Jan 29, 2017	UiTM SHAH ALAM
IFTAR EITH ORPHANS	May 20, 2017	UiTM SHAH ALAM
SPLASH RUN	Oct 25, 2017	UiTM SHAH ALAM
BROADENING CULTU...	Mar 26, 2018	UiTM SHAH ALAM
ENCHANTING BEAUT...	Sep 15, 2018	UiTM SHAH ALAM
TEST 2 MAT233	Dec 3, 2018	UiTM SHAH ALAM
SPORT FIESTA	Mar 21, 2019	UiTM SHAH ALAM
LIGA PREMIER MALA...	May 6, 2019	UiTM SHAH ALAM
MAJLIS ERATAN KASIH	Sep 10, 2019	UiTM SHAH ALAM
TAYANGAN PATRIOT...	Oct 15, 2019	UiTM SHAH ALAM

7.3 SCALAR FUNCTIONS

- Fix the null value of exco faculty and labeled the derived column as faculty. The null values can be change using term "UNKNOWN".

```
SELECT EX_ID, EX_NAME, COALESCE(EX_FACULTY,'UNKNOWN') AS "FACULTY"
FROM EXCO
WHERE EX_FACULTY IS NULL;
```

EX_ID	EX_NAME	FACULTY
2000	HANANI IZZATI	UNKNOWN
2011	KHAIRUL ARIFF	UNKNOWN
2033	ARIF JASMAN	UNKNOWN

- Display ID and name of person in charge that already worked for less than 15 years. Sort the result by their service period.

```
SELECT P_ID, P_NAME, YEAR(CURRENT_DATE - HIRE_DATE) AS "SERVICE PERIOD"
FROM P_INCHARGE
WHERE YEAR(CURRENT_DATE - HIRE_DATE) < 15
ORDER BY YEAR(CURRENT_DATE - HIRE_DATE);
```

P_ID	P_NAME	SERVICE PERIOD
1008	MUHD KHAIRUDDIN	9
1001	SITI NORKHADIJAH	10
1039	SYED NAQIUDIN	10
1046	MICHAEL LAU	10
1000	HAFIZAN MUSA	11
1002	MD AMIN	11
1015	ENG FOO YENG	12

- List ID, name and age of person in charge where the age is less than 40 years old. Sort the result by the age.

```
SELECT P_ID, P_NAME, BIRTH_DATE, YEAR(CURRENT_DATE - BIRTH_DATE) AS "AGE"
FROM P_INCHARGE
WHERE YEAR(CURRENT_DATE - BIRTH_DATE) < 40
ORDER BY YEAR(CURRENT_DATE - BIRTH_DATE);
```

P_ID	P_NAME	BIRTH_DATE	AGE
1003	NOR LIYANA	Feb 16, 1988	31
1006	MOHD SAIFUL BAHRIN	Sep 20, 1987	31
1015	ENG FOO YENG	Aug 24, 1987	31
1032	KHUZAIRY AZMAN	Feb 22, 1988	31
1047	AZIRA MAHZAN	Jul 20, 1987	31
1001	SITI NORKHADIJAH	Apr 23, 1987	32
1014	SARAH SAKINAH	Feb 25, 1987	32
1037	SITI FAKHIRAH	Jan 9, 1987	32
1045	NURAINI NASIR	Mar 2, 1986	33
1048	FARAH HARYANI	May 5, 1986	33
1043	ANA SOLEHAH	Mar 28, 1984	35
1041	NADIYA SYAFIQAH	May 27, 1983	36
1008	MUHD KHAIRUDDIN	Apr 6, 1980	39
1046	MICHAEL LAU	May 5, 1980	39

- Display the name of location for the first 7 spaces from initial and the capacity of location that less than 900. Sort it by the location capacity.

```
SELECT SUBSTR(L_NAME,1,7) AS "NAME" , L_CAPACITY
FROM LOCATION
WHERE L_CAPACITY < 900
ORDER BY L_CAPACITY;
```

NAME	L_CAPACITY
DEWAN K	150
BILIK S	150
COURT F	500
DK500	500
DEWAN S	500
SPEAKER	500
DEWAN M	800
SURAU I	800

- Combine the branch name and its address to be a new column “full address”. Also, display the branch code and sort it by the code.

```
SELECT BR_CODE, BR_NAME CONCAT ' ; ' CONCAT BR_ADDRESS AS "FULL ADDRESS"
FROM BRANCH
ORDER BY BR_CODE;
```

BR_CODE	FULL ADDRESS
A10	UiTM SEGAMAT ; JALAN UNIVERSITI OFF, KM12 JALAN MUAR 85000, JOHOR
B21	UiTM SERI ISKANDAR ; BANDAR SRI ISKANDAR 32610 SRI SIKANDAR, PERAK
C45	UiTM SHAH ALAM ; UiTM 40450, SHAH ALAM, SELANGOR
D43	UiTM PUNCAK ALAM ; PUNCAK ALAM, 42300, BANDAR PUNCAK ALAM, SELANGOR

7.4 COLUMN FUNCTIONS

- Count and total up the exco by their gender. Display the gender and the total exco.

```
SELECT GENDER, COUNT(*) AS "TOTAL EXCO"
FROM EXCO
WHERE GENDER IN ('M','F')
GROUP BY GENDER;
```

GENDER	TOTAL EXCO
F	16
M	22

- List the event code and the sum of guests group by event code. Sequence it by the sum of guests.

```
SELECT E_CODE, SUM(NUM_GUEST) AS "GUEST"
FROM EVENT
GROUP BY E_CODE
ORDER BY SUM(NUM_GUEST);
```

E_CODE	GUEST
00012	40
00016	53
00022	80
00013	150
00017	185
00034	200
00039	200
00015	250
00020	250
00043	250
00024	300
00023	320
00021	350
00018	383
00019	500
00041	500
00042	500
00031	530
00014	700

- Count the total person in charge that were in faculty FSPU and have more than or equal to one person.

```
SELECT P_FACULTY, COUNT(*) AS "FSPU"
FROM P_INCHARGE
WHERE P_FACULTY IN ('FSPU')
GROUP BY P_FACULTY
HAVING COUNT(*) >= 1;
```

P_FACULTY	FSPU
FSPU	4

- List the code and name of location. Display the average of location capacity that are less than or equal to 1000. Sort it by the average.

```
SELECT L_CODE, L_NAME, AVG(L_CAPACITY) AS "AVERAGE CAPACITY"
FROM LOCATION
GROUP BY L_CODE, L_NAME
HAVING AVG(L_CAPACITY) <= 1000
ORDER BY AVG(L_CAPACITY);
```

L_CODE	L_NAME	AVERAGE CAPACITY
A102	DEWAN KULIAH 1	150
A108	BILIK SEMINAR	150
C454	COURT FUTSAL PERI...	500
D432	DK500	500
A101	DEWAN SRI PERIA	500
A107	SPEAKER CORNER	500
C453	DEWAN MUQTAMAR 2	800
D431	SURAU IBNU SINA	800
C452	DEWAN ANJUNG SER...	1000
C455	PADANG RAGBI, KOM...	1000
C460	DATARAN MENARA S...	1000
D437	DEWAN PSB	1000
D439	DEWAN SERBAGUNA,...	1000
B211	PADANG A	1000
B212	DEWAN IBNU AL-KHA...	1000

7.5 SUBQUERIES

- Display code, name and capacity of the location where the capacity is less than the average of location capacity and sequence it by the location code.

```
SELECT L_CODE, L_NAME, L_CAPACITY
FROM LOCATION
WHERE L_CAPACITY < (SELECT AVG(L_CAPACITY) FROM LOCATION)
ORDER BY L_CODE;
```

L_CODE	L_NAME	L_CAPACITY
A101	DEWAN SRI PERIA	500
A102	DEWAN KULIAH 1	150
A107	SPEAKER CORNER	500
A108	BILIK SEMINAR	150
B211	PADANG A	1000
B212	DEWAN IBNU AL-KHA...	1000
C452	DEWAN ANJUNG SER...	1000
C453	DEWAN MUQTAMAR 2	800
C454	COURT FUTSAL PERI...	500
C455	PADANG RAGBI, KOM...	1000
C460	DATARAN MENARA S...	1000
D431	SURAU IBNU SINA	800
D432	DK500	500
D437	DEWAN PSB	1000
D439	DEWAN SERBAGUNA,...	1000

- List code, name and number of guests of the event where the number of guests is not in the average of the guests. Get the first 10 data only and sort it by the number of guests.

```
SELECT E_CODE, E_NAME, NUM_GUEST
FROM EVENT
WHERE NUM_GUEST NOT IN(SELECT AVG(NUM_GUEST) FROM EVENT)
ORDER BY NUM_GUEST
FETCH FIRST 10 ROWS ONLY;
```

E_CODE	E_NAME	NUM_GUEST
00012	MAJLIS SAMBUTAN R...	40
00016	KURSUS PENSYARAH ...	53
00022	FAMILY DAY	80
00013	LEARN TO BE RICH 2.0	150
00017	PROGRAM GERAK PA...	185
00034	TEST 2 MAT233	200
00039	BROADENING CULTU...	200
00015	COMMON TEST LAW299	250
00020	TEST 2 ITT270	250
00043	UJIAN AKHIR CTU555	250

- List all data from table location which the capacity of location is less than or equal to the minimum value of the capacity.

```
SELECT *
FROM LOCATION
WHERE L_CAPACITY <= (SELECT MIN(L_CAPACITY) FROM LOCATION);
```

L_CODE	L_NAME	L_CAPACITY
A102	DEWAN KULIAH 1	150
A108	BILIK SEMINAR	150

- Display name and gender of excos that is not a male.

```
SELECT EX_NAME, GENDER
FROM EXCO
WHERE GENDER NOT IN(SELECT GENDER FROM EXCO WHERE GENDER = 'M');
```

EX_NAME	GENDER
AMALIA ZAHIRAH	F
SYAKIRAH ALIYA	F
UMIE FARAHIN	F
AINA AQLIAH	F
NURUL IZZAH	F
HIDAYAH AYNA	F
MAHIRAH AYUNI	F
MAISARAH ALI	F
NUR KHAIRUNISA	F
SYIQIN AZMI	F
AINUL SAKINAH	F
PUTERI HANINA	F
DAYANA IZZATI	F
NURAQILAH	F
MAISARAH HAMID	F
HANANI IZZATI	F

8. Conclusion

This project is designed to meet the requirements of the system which able to meet the objectives to the satisfaction of the management, students, lecturers and facilities. Therefore, we have developed a system named "UiTM Event Booking System" to computerize the booking places for event in UiTM. The system is significant improvement to replace existing current system which carried out manually. All the information is done manually which the administration use paper and difficult for the staff to find information in a short time. Besides, manual system will increase probability missing the data and chances of making mistakes as such overlapping data or enter wrong information. It would be difficult for the staff universities plus they will be busier especially when there are too many events in that month.

The computerized system will provide better services for the staff like event such as reduce time taken to find data, avoid damage and great user friendly. The implementation of this project has done to increase integrity of data stored in the system and eliminate data redundancy. In designing system, we have used ER diagrams and have created the database system using IBM DB2.

At the completion of this project, "UiTM Event Booking System" has fully meets the objectives. We have overcome all the problems that occur in existing system.

9. References

- Internet:
  1) https://t4tutorials.com/gantt-chart-in-software-project-management/
  2) https://www.draw.io/
  3) https://www.w3schools.com/
- Notebook - DB2 SQL Workshop © Copyright IBM Corp. 1999, 2007
- Lecturer - Sir Mohd Hafizan bin Musa
- Textbook- Database System: Design, Implementation, and Management, Eleventh Edition by Carlos Coronel and Steven Morris. © 2015, 2013 Cengange Learning.