

---

*OMAR ISMAIL ABDJALEEL ALOMORY*

*Matric No: S63955*

*Date: 21/01/2023*

*Lab: MP3*

*Lecturer: Dr. ROSAIDA ROSLY*

*MUHAMMAD NASYRUL ADLY BIN MOHD AFANDY*

*DATABASE (CSF3123) k2*

---

## ACTIVITY 1

### Task 1

#### UNF

WorkNo	ProjectNo	ProjectName	AssignDate
W2002	10002	Oracle data migration	2016-10-12
W3044	10006	eProduction Development	2016-10-18

EmpNo	EmpName	Join Date	JobID
101	Abdul Fahmi Razak	2009-02-03	J05
107	Meor Hashim	2010-05-20	J08
112	Mohammad Azami Daud	2010-05-28	J12
118	Ramli Azman	2011-06-22	J31
120	Anita Jusoh	2011-12-02	J31
102	Fridaus Othman	2009-03-17	J05
107	Meor Hashim Meor Ngah	2010-05-20	J08
114	Asma Che Amin	2010-06-15	J12
123	Fahmi Abdullah	2012-03-01	J25
124	Nuridzuan Ahmad	2012-03-15	J31

JobDescription	RateHour	WorkHour	ChargeAmount
Project Manager	200.00	24	4800.00
Database Admin	100.00	32	3200.00
System Analyst	120.00	32	3840.00
System Developer	50.00	160	8000.00
System Developer	50.00	160	8000.00
Project Manager	200.00	80	16000.00
Database Admin	100.00	15	1500.00
System Analyst	120.00	120	12000.00
Senior System Developer	80.00	160	12800.00
System Developer	50.00	160	8000.00

---

#### 1<sup>st</sup> NF

WorkNo	ProjectNo	ProjectName	AssignDate
W2002	10002	Oracle data migration	2016-10-12
W2002	10002	Oracle data migration	2016-10-12
W2002	10002	Oracle data migration	2016-10-12
W2002	10002	Oracle data migration	2016-10-12
W2002	10002	Oracle data migration	2016-10-12

W3044	10006	eProduction Development	2016-10-18
W3044	10006	eProduction Development	2016-10-18
W3044	10006	eProduction Development	2016-10-18
W3044	10006	eProduction Development	2016-10-18
W3044	10006	eProduction Development	2016-10-18

WorkNo	EmpNo	EmpName	Join Date	JobID
W2002	101	Abdul Fahmi Razak	2009-02-03	J05
W2002	107	Meor Hashim	2010-05-20	J08
W2002	112	Mohammad Azami Daud	2010-05-28	J12
W2002	118	Ramli Azman	2011-06-22	J31
W2002	120	Anita Jusoh	2011-12-02	J31
W3044	102	Fridaus Othman	2009-03-17	J05
W3044	107	Meor Hashim Meor Ngah	2010-05-20	J08
W3044	114	Asma Che Amin	2010-06-15	J12
W3044	123	Fahmi Abdullah	2012-03-01	J25
W3044	124	Nuridzuan Ahmad	2012-03-15	J31

JobDescription	RateHour	WorkHour	ChargeAmount
Project Manager	200.00	24	4800.00
Database Admin	100.00	32	3200.00
System Analyst	120.00	32	3840.00
System Developer	50.00	160	8000.00
System Developer	50.00	160	8000.00
Project Manager	200.00	80	16000.00
Database Admin	100.00	15	1500.00
System Analyst	120.00	120	12000.00
Senior System Developer	80.00	160	12800.00
System Developer	50.00	160	8000.00

## 2 NF

### Work

- 1fd WorkNo, ProjectNo > AssignDate (Primary Key)
- 2fd ProjectNo > Projectname(Transitive dependency)

### Employee

- 1fd WorkNo, EmpNo > WorkHour, ChargeAmout (Primary Key)
- 2fd EmpNo > EmpName, JoinDate, JobID (Partial dependency)
- 3fd JodID > JobDescription, RateHour(Transitive dependency)
- 4fd ProjectNo > ProjectName, AssignDate(Candidate Key)
- 5fd WorkNo > ProjectNo, ProjectName, AssignDate (Candidate Key)

EmpNo	EmpName	JoinDate	JobID
101	Abdul Fahmi Razak	2009-02-03	J05
107	Meor Hashim	2010-05-20	J08
112	Mohammad Azami Daud	2010-05-28	J12
118	Ramli Azman	2011-06-22	J31
120	Anita Jusoh	2011-12-02	J31
102	Fridaus Othman	2009-03-17	J05
107	Meor Hashim Meor Ngah	2010-05-20	J08
114	Asma Che Amin	2010-06-15	J12
123	Fahmi Abdullah	2012-03-01	J25
124	Nuridzuan Ahmad	2012-03-15	J31

### 3 NF

Work

2fd ProjectNo > Projectname(Transitive dependency)

Empolyee

3fd JodID > JobDescription, RateHour(Transitive dependency)

Project

ProjectNo	ProjectName
10002	Oracle data migration
10006	eProduction Development

Job

JobID	JobDescription	RateHour
J05	Project Manager	200.00
J08	Database Admin	100.00
J12	System Analyst	120.00
J25	Senior System Developer	80.00
J31	System Developer	50.00

So eventually we come up with five tables for this problem:

Project

ProjectNo	ProjectName
10002	Oracle data migration
10006	eProduction Development

Job

JobID	JobDescription	RateHour
J05	Project Manager	200.00
J08	Database Admin	100.00
J12	System Analyst	120.00

J25	Senior System Developer	80.00
J31	System Developer	50.00

#### Employee

EmpNo	EmpName	Join Date	JobID
101	Abdul Fahmi Razak	2009-02-03	J05
107	Meor Hashim Meor Ngah	2010-05-20	J08
112	Mohammad Azami Daud	2010-05-28	J12
118	Ramli Azman	2011-06-22	J31
120	Anita Jusoh	2011-12-02	J31
102	Fridaus Othman	2009-03-17	J05
107	Meor Hashim Meor Ngah	2010-05-20	J08
114	Asma Che Amin	2010-06-15	J12
123	Fahmi Abdullah	2012-03-01	J25
124	Nuridzuan Ahmad	2012-03-15	J31

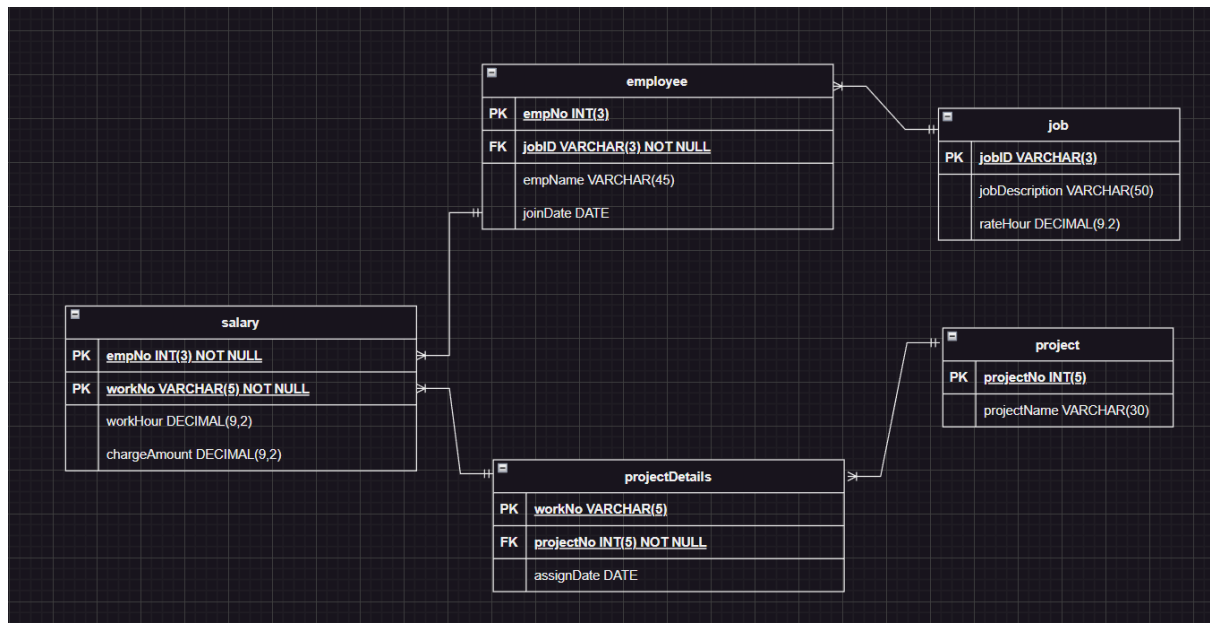
#### Salary

WorkNo	EmpNo	WorkHour	ChargeAmount
W2002	101	24	4800.00
W2002	107	32	3200.00
W2002	112	32	3840.00
W2002	118	160	8000.00
W2002	120	160	8000.00
W3044	102	80	16000.00
W3044	107	15	1500.00
W3044	114	120	12000.00
W3044	123	160	12800.00
W3044	124	160	8000.00

#### ProjectDetails

WorkNo	ProjectNo	AssignDate
W2002	10002	2016-10-12
W3044	10006	2016-10-18

## Task 2



## Task 3

```
1 • DROP DATABASE IF EXISTS project_management_system;
2 • CREATE DATABASE project_management_system;
3 • USE project_management_system;
4
5 • CREATE TABLE job(
6     jobID VARCHAR(3) PRIMARY KEY,
7     jobDescription VARCHAR(50),
8     rateHour DECIMAL(9,2)
9 );
10
11 • CREATE TABLE project(
12     projectNo INT(5) PRIMARY KEY,
13     projectName VARCHAR(30)
14 );
15
16 • CREATE TABLE projectDetails(
17     workNo VARCHAR(5) PRIMARY KEY,
18     projectNo INT(5) NOT NULL,
19     assignDate DATE,
20     CONSTRAINT fk_projectDetails_projectNo FOREIGN KEY(projectNo) REFERENCES project(projectNo)
21 );
22
23
```

```

23
24 • CREATE TABLE employee(
25     empNo INT(3) PRIMARY KEY,
26     empName VARCHAR(45),
27     joinDate DATE ,
28     jobID VARCHAR(3) NOT NULL,
29     CONSTRAINT fk_employee_jobID FOREIGN KEY(jobID) REFERENCES job(jobID)
30 );
31
32 • CREATE TABLE salary(
33     workNo VARCHAR(5) NOT NULL,
34     empNo INT(3) NOT NULL,
35     workHour DECIMAL(9,2),
36     chargeAmount DECIMAL(9,2),
37     CONSTRAINT pk_salary_both PRIMARY KEY(workNo, empNo),
38     CONSTRAINT fk_salary_workNo FOREIGN KEY(workNo) REFERENCES projectDetails(workNo),
39     CONSTRAINT fk_salary_empNo FOREIGN KEY(empNo) REFERENCES employee(empNo)
40 );
41

```

## Output

#	Time	Action	Message	Duration / Fetch
✓ 1	00:02:51	DROP DATABASE IF EXISTS project_management_system	5 row(s) affected	0.031 sec
✓ 2	00:02:51	CREATE DATABASE project_management_system	1 row(s) affected	0.016 sec
✓ 3	00:02:51	USE project_management_system	0 row(s) affected	0.000 sec
✓ 4	00:02:51	CREATE TABLE job(jobID VARCHAR(3) PRIMARY KEY, jobDescription VARCHAR(50), rateHour DE...	0 row(s) affected	0.015 sec
⚠ 5	00:02:51	CREATE TABLE project (projectNo INT(5) PRIMARY KEY, projectName VARCHAR(30) )	0 row(s) affected, 1 warning(s): 1681 Integer display width is deprecated and will be removed in a future ...	0.016 sec
⚠ 6	00:02:51	CREATE TABLE projectDetails( workNo VARCHAR(5) PRIMARY KEY, projectNo INT(5) NOT NULL, ...	0 row(s) affected, 1 warning(s): 1681 Integer display width is deprecated and will be removed in a future ...	0.016 sec
⚠ 7	00:02:51	CREATE TABLE employee( empNo INT(3) PRIMARY KEY, empName VARCHAR(45), joinDate DATE ...	0 row(s) affected, 1 warning(s): 1681 Integer display width is deprecated and will be removed in a future ...	0.015 sec
⚠ 8	00:02:51	CREATE TABLE salary( workNo VARCHAR(5) NOT NULL, empNo INT(3) NOT NULL, workHour DEC...	0 row(s) affected, 1 warning(s): 1681 Integer display width is deprecated and will be removed in a future ...	0.016 sec

The "projectDetails" table has a many-to-many relationship with the "employee" table through the "salary" table, as one project detail can be associated with multiple employees and one employee can work on multiple project details. as the requirement did not specify it but if only one employee is associated with one projectDetails (project) then we can make empNo in Salary table as UNIQUE I think.

---

## Task 4

```
1      -- DATA INSETION
2  ●    USE project_management_system;
3
4  ●    INSERT INTO project VALUES
5      (10002, 'Oracle data migration'),
6      (10006, 'eProduction Development');
7
8  ●    INSERT INTO projectDetails VALUES
9      ('W2002',10002,'2016-10-12'),
10     ('W3044',10006,'2016-10-18');
11
12 ●    INSERT INTO job VALUES
13     ('J05', 'Project Manager', 200.00),
14     ('J08', 'Database Admin', 100.00),
15     ('J12', 'System Analyst', 120.00),
16     ('J25', 'Senior System Developer', 80.00),
17     ('J31', 'System Developer', 50.00);
18
19
20 ●    INSERT INTO employee VALUES
21     (101, 'Abdul Fahmi Razak', '2009-02-03', 'J05'),
22     (107, 'Meor Hashim Meor Ngah', '2010-05-20', 'J08'),
23     (112, 'Mohamad Azami Daud', '2010-05-28', 'J12'),
24     (118, 'Ramli Azman', '2011-06-22', 'J31'),
25     (120, 'Anita Jusoh', '2011-12-02', 'J31'),
26     (102, 'Fridaus Othman', '2009-03-17', 'J05'),
27     (114, 'Asma Che Amin', '2010-06-15', 'J12'),
28     (123, 'Fahmi Abdullah', '2012-03-01', 'J25'),
29     (124, 'Nuridzuan Ahmad', '2012-03-15', 'J31');
30
31
32 ●    INSERT INTO salary VALUES
33     ('W2002', 101, 24, 4800.00),
34     ('W2002', 107, 32, 3200.00),
35     ('W2002', 112, 32, 3840.00),
36     ('W2002', 118, 160, 8000.00),
37     ('W2002', 120, 160, 8000.00),
38     ('W3044', 102, 80, 16000.00),
39     ('W3044', 107, 15, 1500.00),
40     ('W3044', 114, 120, 12000.00),
41     ('W3044', 123, 160 ,12800.00),
42     ('W3044', 124, 160, 8000.00);
```



## Output

#	Time	Action	Message	Duration / Fetch
✓ 1	01:05:11	USE project_management_system	0 row(s) affected	0.000 sec
✓ 2	01:05:11	INSERT INTO project VALUES (10002, 'Oracle data migration'), (10006, 'eProduction Development')	2 row(s) affected Records: 2 Duplicates: 0 Warnings: 0	0.015 sec
✓ 3	01:05:11	INSERT INTO projectDetails VALUES (W2002,10002,2016-10-12), (W3044,10006,2016-10-18)	2 row(s) affected Records: 2 Duplicates: 0 Warnings: 0	0.016 sec
✓ 4	01:05:11	INSERT INTO job VALUES (J05, 'Project Manager', 200.00), (J08, 'Database Admin', 100.00), (J12, '...	5 row(s) affected Records: 5 Duplicates: 0 Warnings: 0	0.000 sec
✓ 5	01:05:11	INSERT INTO employee VALUES (101, 'Abdul Fahmi Razak', '2009-02-03', 'J05'), (107, 'Meor Hashim ...	9 row(s) affected Records: 9 Duplicates: 0 Warnings: 0	0.000 sec
✓ 6	01:05:11	INSERT INTO salary VALUES (W2002, 101, 24, 4800.00), (W2002, 107, 32, 3200.00), (W2002, 11...	10 row(s) affected Records: 10 Duplicates: 0 Warnings: 0	0.000 sec

## ACTIVITY 2

```
4 1. Retrieve employee number, employee name and charge amount for employee who involve
5 in project 10002. In your output, concatenate employee number and employee with
6 separator ' - ' and rename it as Employee_Details.
7 */
8 • SELECT concat_ws (' - ',e.empNo, e.empName) AS Employee_Details , s.chargeAmount
9 FROM employee e, salary s, projectDetails p
10 WHERE p.workno = s.workNo AND s.empNo = e.empNo AND p.projectNo = 10002;
11
```

Result Grid			Filter Rows:	Export:	Wrap Cell Content:
	Employee_Details	chargeAmount			
▶	101 - Abdul Fahmi Razak	4800.00			
	107 - Meor Hashim Meor Ngah	3200.00			
	112 - Mohamad Azami Daud	3840.00			
	118 - Ramli Azman	8000.00			
	120 - Anita Jusoh	8000.00			

Result 9 ×

Output

Action Output

#	Time	Action	Message
▶ 1	01:35:46	SELECT concat_ws (' - ',e.empNo, e.empName) AS Employee_Details , s.chargeAmount FROM empl...	5 row(s) returned

```

13 2. Retrieve employee name and the first twelve (12) characters job description for employee
14 number range from 101 and 114. Rename job description as Roles.
15 */
16 • SELECT e.empName, substring(j.jobDescription,1,12) AS Roles
17 FROM employee e , job j
18 WHERE e.jobID = j.jobID
19 AND e. empNo BETWEEN 101 AND 114;

```

Result Grid Filter Rows:  Export: Wrap Cell Content:

empName	Roles
Abdul Fahmi Razak	Project Mana
Fridaus Othman	Project Mana
Meor Hashim Meor Ngah	Database Adm
Mohamad Azami Daud	System Analy
Asma Che Amin	System Analy

Result 16 x

Output

Action Output

#	Time	Action	Message
1	01:40:27	SELECT e.empName, substring(j.jobDescription,1,12) AS Roles FROM employee e , job j WHERE e.jobID = j.jobID AND e. empNo BETWEEN 101 AND 114;	5 row(s) returned

```

22 3. Display the employee number, employee first name and work hour for those working hour is
23 more than 50 hours and working with project 10006. [Hints: Use LOCATE and SUBSTRING]
24 */
25 • SELECT e.empNo, substring(e.empName,1, locate(" ",e.empName)) AS 'First Name', s.workHour
26 FROM employee e, salary s, projectDetails p
27 WHERE e.empNo = s.empNo AND s.workNo = p.workNo AND p.projectNo = 10006 AND s.workHour > 50;

```

Result Grid Filter Rows:  Export: Wrap Cell Content:

empNo	First Name	workHour
102	Fridaus	80.00
114	Asma	120.00
123	Fahmi	160.00
124	Nuridzuan	160.00

Result 21 x

Output

Action Output

#	Time	Action	Message
1	01:56:51	SELECT e.empNo, substring(e.empName,1, locate(" ",e.empName)) AS 'First Name', s.workHour FROM employee e, salary s, projectDetails p WHERE e.empNo = s.empNo AND s.workNo = p.workNo AND p.projectNo = 10006 AND s.workHour > 50;	4 row(s) returned

```

30  /*
31  4. Retrieve employee name and total charge amount for employee who working as 'System
32  Developer'. Rename total charge amount as Amount_Accumulate and remove any decimal
33  places
34  */
35  • SELECT e.empName, TRUNCATE(sum(s.chargeAmount),0) AS Amount_Accumulate
36  FROM employee e, salary s
37  WHERE e.empNo = s.empNo AND e.jobid= (SELECT jobID FROM job WHERE jobDescription = 'System Developer' )

```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: |

	empName	Amount_Accumulate
▶	Ramli Azman	8000
	Anita Jusoh	8000
	Nuridzuan Ahmad	8000

Result 26 x

Output

Action Output

#	Time	Action	Message
✓ 1	02:22:03	SELECT e.empName, TRUNCATE(sum(s.chargeAmount),0) AS Amount_Accumulate FROM employee...	3 row(s) returned

```

40  /*
41  5. Find employee name, job description and number of service for the employee
42  */
43  • SELECT e.empName, j.jobDescription, count(s.empNo) AS 'Number of Service'
44  FROM employee e, job j, salary s
45  WHERE e.jobID = j.jobID AND s.empNo = e.empNo
46  GROUP BY e.empName;

```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: |

	empName	jobDescription	Number of Service
▶	Abdul Fahmi Razak	Project Manager	1
	Fridaus Othman	Project Manager	1
	Meor Hashim Meor Ngah	Database Admin	2
	Mohamad Azami Daud	System Analyst	1
	Asma Che Amin	System Analyst	1
	Fahmi Abdullah	Senior System Developer	1
	Ramli Azman	System Developer	1
	Anita Jusoh	System Developer	1
	Nuridzuan Ahmad	System Developer	1

Result 28 x

Output

Action Output

#	Time	Action	Message
✓ 1	02:28:28	SELECT e.empName, j.jobDescription, count(s.empNo) AS 'Number of Service' FROM employee e, jo...	9 row(s) returned

```

49  /*
50  6. Retrieve project number, project name, employee name and assign date who involve in
51  project 10006. You should format the assign date as 'dd-mm-yyyy'.
52  */
53  • SELECT p.projectNo, o.projectName, e.empName, date_format(p.assignDate, '%d-%m-%Y') AS 'Date Formated'
54  FROM salary s, projectDetails p, employee e, project o
55  WHERE p.projectNo = o.projectNo AND p.workNo = s.workNo AND s.empNo = e.empNo AND o.projectNo=10006;

```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: |

	projectNo	projectName	empName	Date Formated
▶	10006	eProduction Development	Fridaus Othman	18-10-2016
	10006	eProduction Development	Meor Hashim Meor Ngah	18-10-2016
	10006	eProduction Development	Asma Che Amin	18-10-2016
	10006	eProduction Development	Fahmi Abdullah	18-10-2016
	10006	eProduction Development	Nuridzuan Ahmad	18-10-2016

Result 40 x

Output

Action Output

#	Time	Action	Message
✓ 1	02:35:50	SELECT p.projectNo, o.projectName, e.empName, date_format(p.assignDate, '%d-%m-%Y') AS 'Date F...	5 row(s) returned

## Lab Exercise

### Task 1

```
DROP DATABASE IF EXISTS lab8exercise;  
CREATE DATABASE lab8exercise;  
USE lab8exercise;
```

```
CREATE TABLE lab8typeproperty(  
  propertytype INT (2) PRIMARY KEY,  
  propertydesc varchar(70) );
```

```
CREATE TABLE lab8property(  
  propertyno INT(5) PRIMARY KEY,  
  addr varchar(70),  
  city varchar(35),  
  postcode int(5),  
  propertytype int(2),  
  foreign key (propertytype) references lab8typeproperty (propertytype) on update cascade  
);
```

```
create table renter(  
  icno varchar(30) PRIMARY KEY,  
  rentname varchar(50),  
  hpno varchar(16),  
  email varchar(60) );
```

```

26 • CREATE TABLE lab8billing (
27     billingno int(6) PRIMARY KEY AUTO_INCREMENT,
28     billingdate date,
29     icno varchar(30) NOT NULL,
30     pymtmonth date,
31     pymtyear year (4),
32     paidamount decimal(9,2),
33     foreign key (icno) references renter (icno)
34 • ); alter table lab8billing auto_increment =100001;
35
36
37
38
39 • CREATE TABLE termreference (
40     termrefno varchar(30) PRIMARY KEY,
41     icno varchar(30) NOT NULL,
42     propertyno int(5) NOT NULL,
43     startdate date, enddate date,
44     binclusive char (1) NOT NULL,
45     mthlamount decimal(9,2),
46     FOREIGN KEY (propertyno) REFERENCES lab8property (propertyno),
47     foreign key (icno) references renter (icno)
48 );
49

```

## Output

#	Time	Action	Message	Duration / Fetch
✓ 2	12:33:03	CREATE DATABASE lab8exercise	1 row(s) affected	0.000 sec
✓ 3	12:33:03	USE lab8exercise	0 row(s) affected	0.000 sec
⚠ 4	12:33:03	CREATE TABLE lab8typeproperty( propertytype INT (2) PRIMARY KEY,propertydesc varchar(70) )	0 row(s) affected, 1 warning(s): 1681 Integer display width is deprecated and will be removed in a futur...	0.016 sec
⚠ 5	12:33:03	CREATE TABLE lab8property( propertyno INT(5) PRIMARY KEY, addr varchar(70), city varchar(35), ...	0 row(s) affected, 3 warning(s): 1681 Integer display width is deprecated and will be removed in a futur...	0.031 sec
✓ 6	12:33:03	create table renter( icono varchar(30) PRIMARY KEY, rentname varchar(50), hpno varchar(16), email...	0 row(s) affected	0.016 sec
⚠ 7	12:33:03	CREATE TABLE lab8billing ( billingno int(6) PRIMARY KEY AUTO_INCREMENT, billingdate date, ic...	0 row(s) affected, 2 warning(s): 1681 Integer display width is deprecated and will be removed in a futur...	0.015 sec
✓ 8	12:33:03	alter table lab8billing auto_increment =100001	0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0	0.000 sec
⚠ 9	12:33:03	CREATE TABLE termreference ( termrefno varchar(30) PRIMARY KEY, icono varchar(30) NOT NUL...	0 row(s) affected, 1 warning(s): 1681 Integer display width is deprecated and will be removed in a futur...	0.031 sec



## Task 2

```
1 • insert into lab8typeproperty values
2 ('10', 'Apartment'),
3 ('08', 'Long house'),
4 ('04', 'Double terraced house'),
5 ('02', 'semi-D house'),
6 ('01', 'condominium');
7
8
9
10 • insert into lab8property values
11 ('30002', '112, Taman B', 'Muar', '84333', '08'),
12 ('30001', '111, Taman Jaya', 'Batu Rakit', '51200', '10'),
13 ('30003', '113, Taman C', 'Shah Alam', '40150', '04'),
14 ('30004', '114, Taman D', 'Batu Pahat', '85003', '02'),
15 ('30005', '115, Taman E', 'Kuantan', '43010', '01');
16
17
18 • INSERT INTO renter values
19 ('870514-01-5472', 'Abu', '012-1235486', 'abu@gmail.com'),
20 ('580613-06-1057', 'Ali', '017-8462130', 'ali@gmail.com'),
21 ('760514-02-5482', 'Koushhalya', '014-12584631', 'koushhalya@gmail.com'),
22 ('650412-01-2055', 'Chirstina', '019-6543975', 'chirstina@gmail.com'),
23 ('680124-01-5472', 'Kah Chun', '010-5366882', 'kk@gmail.com');
24
25 • INSERT INTO lab8billing
26 (billingdate, icno, pymtmonth, pymtyear, paidamount) values
27 ('2016-03-21', '870514-01-5472', '2016-03-20', '2016', '560.00'),
28 ('2016-05-29', '580613-06-1057', '2016-05-29', '2016', '760.00'),
29 ('2016-07-18', '760514-02-5482', '2016-07-19', '2016', '600.00'),
30 ('2016-09-15', '650412-01-2055', '2016-09-16', '2016', '560.00'),
31 ('2016-11-11', '680124-01-5472', '2016-11-12', '2016', '650.00'),
32 ('2016-03-21', '870514-01-5472', '2016-03-20', '2016', '560.00'),
33 ('2016-05-29', '580613-06-1057', '2016-05-29', '2016', '760.00'),
34 ('2016-07-18', '760514-02-5482', '2016-07-19', '2016', '600.00'),
35 ('2016-09-15', '650412-01-2055', '2016-09-16', '2016', '560.00'),
36 ('2016-11-11', '680124-01-5472', '2016-11-12', '2016', '650.00'),
37 ('2017-01-15', '680124-01-5472', '2017-01-16', '2017', '800.00'),
38 ('2017-03-21', '870514-01-5472', '2017-03-20', '2017', '700.00'),
39 ('2017-05-29', '580613-06-1057', '2017-05-29', '2017', '850.00'),
40 ('2017-07-18', '760514-02-5482', '2017-07-19', '2017', '700.00'),
41 ('2017-09-15', '650412-01-2055', '2017-09-16', '2017', '900.00');
42
43
44 • INSERT INTO termreference
45 values
46 ('01', '870514-01-5472', '30001', '2016-03-21', '2017-01-21', 'Y', '56000.00'),
47 ('02', '580613-06-1057', '30002', '2016-05-29', '2017-03-29', 'N', '76000.00'),
48 ('03', '760514-02-5482', '30003', '2016-07-18', '2017-05-18', 'Y', '60000.00'),
49 ('05', '680124-01-5472', '30005', '2014-11-11', '2017-09-11', 'Y', '65000.00');
```

## Output

#	Time	Action	Message	Duration / Fetch
✓ 1	12:40:12	insert into lab8typeproperty values ('10', 'Apartment'), ('08', 'Long house'), ('04', 'Double terraced house'), ('02', 'semi-D house'), ('01', 'condominium');	5 row(s) affected Records: 5 Duplicates: 0 Warnings: 0	0.016 sec
✓ 2	12:40:12	insert into lab8property values ('30002', '112, Taman B', 'Muar', '84333', '08'), ('30001', '111, Taman Jaya', 'Batu Rakit', '51200', '10'), ('30003', '113, Taman C', 'Shah Alam', '40150', '04'), ('30004', '114, Taman D', 'Batu Pahat', '85003', '02'), ('30005', '115, Taman E', 'Kuantan', '43010', '01');	5 row(s) affected Records: 5 Duplicates: 0 Warnings: 0	0.000 sec
✓ 3	12:40:12	INSERT INTO renter values ('870514-01-5472', 'Abu', '012-1235486', 'abu@gmail.com'), ('580613-06-1057', 'Ali', '017-8462130', 'ali@gmail.com'), ('760514-02-5482', 'Koushhalya', '014-12584631', 'koushhalya@gmail.com'), ('650412-01-2055', 'Chirstina', '019-6543975', 'chirstina@gmail.com'), ('680124-01-5472', 'Kah Chun', '010-5366882', 'kk@gmail.com');	5 row(s) affected Records: 5 Duplicates: 0 Warnings: 0	0.000 sec
✓ 4	12:40:12	INSERT INTO lab8billing (billingdate, icno, pymtmonth, pymtyear, paidamount) values ('2016-03-21', '870514-01-5472', '2016-03-20', '2016', '560.00'), ('2016-05-29', '580613-06-1057', '2016-05-29', '2016', '760.00'), ('2016-07-18', '760514-02-5482', '2016-07-19', '2016', '600.00'), ('2016-09-15', '650412-01-2055', '2016-09-16', '2016', '560.00'), ('2016-11-11', '680124-01-5472', '2016-11-12', '2016', '650.00'), ('2016-03-21', '870514-01-5472', '2016-03-20', '2016', '560.00'), ('2016-05-29', '580613-06-1057', '2016-05-29', '2016', '760.00'), ('2016-07-18', '760514-02-5482', '2016-07-19', '2016', '600.00'), ('2016-09-15', '650412-01-2055', '2016-09-16', '2016', '560.00'), ('2016-11-11', '680124-01-5472', '2016-11-12', '2016', '650.00'), ('2017-01-15', '680124-01-5472', '2017-01-16', '2017', '800.00'), ('2017-03-21', '870514-01-5472', '2017-03-20', '2017', '700.00'), ('2017-05-29', '580613-06-1057', '2017-05-29', '2017', '850.00'), ('2017-07-18', '760514-02-5482', '2017-07-19', '2017', '700.00'), ('2017-09-15', '650412-01-2055', '2017-09-16', '2017', '900.00');	15 row(s) affected Records: 15 Duplicates: 0 Warnings: 0	0.015 sec
✓ 5	12:40:12	INSERT INTO termreference values ('01', '870514-01-5472', '30001', '2016-03-21', '2017-01-21', 'Y', '56000.00'), ('02', '580613-06-1057', '30002', '2016-05-29', '2017-03-29', 'N', '76000.00'), ('03', '760514-02-5482', '30003', '2016-07-18', '2017-05-18', 'Y', '60000.00'), ('05', '680124-01-5472', '30005', '2014-11-11', '2017-09-11', 'Y', '65000.00');	4 row(s) affected Records: 4 Duplicates: 0 Warnings: 0	0.000 sec

## Task 4

```

1  /*
2  1. Retrieve ic number, rental name, property number and rental year (from attribute startdate)
3  for any property that has property type as 10.
4  */
5  • select r.icno,r.rentname, p.propertyno, t.startdate ,p.propertytype
6    from termreference t,lab8property p,renter r
7    where p.propertyno=t.propertyno and t.icno = r.icno and p.propertytype = '10';

```

Result Grid

Filter Rows:

Export:

Wrap Cell Content:

	icno	rentname	propertyno	startdate	propertytype
▶	580613-06-1057	Ali	30001	2016-05-29	10
	760514-02-5482	Koushalya	30001	2016-07-18	10
	680124-01-5472	Kah Chun	30001	2014-11-11	10

```

10 2. Display billing number, billing date, rental name and payment month for property number
11 30001 and 30005. You should format billing date as 'dd-mm-yyyy'.
12 */
13 • select billingno, date_format(billingdate, '%d-%m-%Y') as 'billing Date', rentname,b.pytmmonth
14    from lab8billing b, renter r,lab8property p,termreference t
15    where r.icno = b.icno and b.icno = t.icno and t.propertyno = p.propertyno
16    and (p.propertyno = 30005 or p.propertyno = 30001);

```

Result Grid	Filter Rows:	Export:	Wrap Cell Content:
billingno	billing Date	rentname	pytmmonth
100001	21-03-2016	Abu	2016-03-20
100006	21-03-2016	Abu	2016-03-20
100012	21-03-2017	Abu	2017-03-20
100005	11-11-2016	Kah Chun	2016-11-12
100010	11-11-2016	Kah Chun	2016-11-12
100011	15-01-2017	Kah Chun	2017-01-16

```

20 3. Retrieve rental name, term reference number, hp number and monthly rental amount for
21 property located at 'Shah Alam'. Example value for hp number is 012-5545050. You should
22 display hp number as 0125545050 in your query.
23 */
24
25 • select r.rentname, t.termrefno, replace(r.hpno,'-','') as 'hp number' , t.mthlamount
26    from termreference t,renter r,lab8property p
27    where r.icno=t.icno and t.propertyno=p.propertyno and p.city= 'Shah Alam'

```

Result Grid	Filter Rows:	Export:	Wrap Cell Content:
rentname	termrefno	hp number	mthlamount
Abu	01	0121235486	56000.00
Ali	02	0178462130	76000.00
Kah Chun	05	0105366882	65000.00



```

31 4. Retrieve property description, property address, rental amount and bill inclusive for all
32 property. If bill inclusive = 'N', display as 'Electricity & Water bill not inclusive'. For bill inclusive
33 = 'Y', display as 'Electricity & Water bill is inclusive'
34 */
35 • select t.propertydesc,p.addr,o.mthlamount,
36 if(o.binclusive='N', 'Electricity & Water bill not inclusive', 'Electricity & Water bill inclusive') as binclusive
37 from lab8property p,lab8typeproperty t,termreference o
38 where t.propertytype=p.propertytype and p.propertyno = o.propertyno;
39

```

Result Grid	Filter Rows:	Export:	Wrap Cell Content:
propertydesc	addr	mthlamount	binclusive
Apartment	111, Taman Jaya	56000.00	Electricity & Water bill inclusive
Long house	112, Taman B	76000.00	Electricity & Water bill not inclusive
Double terraced house	113, Taman C	60000.00	Electricity & Water bill inclusive
condominium	115, Taman E	65000.00	Electricity & Water bill inclusive





5. Retrieve payment year, average payment amount for property where the signed date of term reference signed starting from year 2012 until 2014. You should display the average payment amount up to two (2) decimal places

\*/

```

• select pymtyear, truncate (avg(paidamount), 2) as paidamount
from lab8billing b, renter r, termreference t
where b.icno = r.icno and r.icno = t.icno and
date_format(t.startdate, '%Y') between 2012 and 2014 group by b.pymtyear;

```

It Grid |   Filter Rows:  | Export:  | Wrap Cell Content: 

pymtyear	paidamount
2016	650.00
2017	800.00

Thank you very much sir and really sorry for late submission.