Q1

```sql
use Minproject;

/* Write SQL statements to create all tables in the final normalized ERD in Task 4.2C. */
CREATE TABLE Customers
(
customer_id int,
name varchar(60),
address varchar(100),
phone_num varchar(20),
email varchar(20),
PRIMARY KEY (customer_id)
);
desc Customers;
```

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

Field	Type	Null	Key	Default	Extra
customer_id	int	NO	PRI	NULL	
name	varchar(60)	YES		NULL	
address	varchar(100)	YES		NULL	
phone_num	varchar(20)	YES		NULL	
email	varchar(20)	YES		NULL	

```sql
CREATE TABLE Plans
(
plan_id int,
plan_name varchar(50),
data_speed int,
limit_data int,
cost decimal(6,2),
PRIMARY KEY (plan_id)
);
desc Plans;

CREATE TABLE CustomerPlans
```

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

Field	Type	Null	Key	Default	Extra
plan_id	int	NO	PRI	NULL	
plan_name	varchar(50)	YES		NULL	
data_speed	int	YES		NULL	
limit_data	int	YES		NULL	
cost	decimal(6,2)	YES		NULL	

```sql
CREATE TABLE CustomerPlans
(
customerplan_id int,
customer_id int,
plan_id int,
decripition varchar(50),
PRIMARY KEY (customerplan_id),
FOREIGN KEY (customer_id) REFERENCES Customers(customer_id),
FOREIGN KEY (plan_id) REFERENCES Plans(plan_id)
);
desc CustomerPlans;

CREATE TABLE Phones
(
phone_id int,
maker varchar(50),
```

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

Field	Type	Null	Key	Default	Extra
customerplan_id	int	NO	PRI	NULL	
customer_id	int	YES	MUL	NULL	
plan_id	int	YES	MUL	NULL	
decripition	varchar(50)	YES		NULL	

```
38 •  CREATE TABLE Phones
39    (
40    phone_id int,
41    maker varchar(50),
42    phone_System varchar(50),
43    phone_storage int,
44    PRIMARY KEY (phone_id)
45    );
46 •  desc Phones;
47
48 •  CREATE TABLE Orders
49    (
50    order_id int,
```

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

Field	Type	Null	Key	Default	Extra
phone_id	int	NO	PRI	NULL	
maker	varchar(50)	YES		NULL	
phone_System	varchar(50)	YES		NULL	
phone_storage	int	YES		NULL	
Colour	varchar(10)	YES		NULL	

```
48 •  CREATE TABLE Orders
49    (
50    order_id int,
51    customer_id int,
52    total decimal(6,2),
53    order_date date,
54    PRIMARY KEY (order_id),
55    FOREIGN KEY (customer_id) REFERENCES Customers(customer_id)
56    );
57 •  desc Orders;
58
59 •  CREATE TABLE PhoneOrder
```

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

Field	Type	Null	Key	Default	Extra
order_id	int	NO	PRI	NULL	
customer_id	int	YES	MUL	NULL	
total	decimal(6,2)	YES		NULL	
order_date	date	YES		NULL	

```
48 •  CREATE TABLE Orders
49    (
50    order_id int,
51    customer_id int,
52    total decimal(6,2),
53    order_date date,
54    PRIMARY KEY (order_id),
55    FOREIGN KEY (customer_id) REFERENCES Customers(customer_id)
56    );
57 •  desc Orders;
58
59 •  CREATE TABLE PhoneOrder
```

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

Field	Type	Null	Key	Default	Extra
order_id	int	NO	PRI	NULL	
customer_id	int	YES	MUL	NULL	
total	decimal(6,2)	YES		NULL	
order_date	date	YES		NULL	

```sql
CREATE TABLE Returns
(
return_id int,
customer_id int,
order_id int,
return_reason varchar(50),
PRIMARY KEY(return_id),
FOREIGN KEY (order_id) REFERENCES Orders(order_id),
FOREIGN KEY (customer_id) REFERENCES Customers(customer_id)
);
desc Returns;

CREATE TABLE Payments
```

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

Field	Type	Null	Key	Default	Extra
return_id	int	NO	PRI	NULL	
customer_id	int	YES	MUL	NULL	
order_id	int	YES	MUL	NULL	
return_reason	varchar(50)	YES		NULL	

```sql
CREATE TABLE Payments
(
payment_id int,
order_id int,
customer_id int,
payment_method varchar(50),
PRIMARY KEY(payment_id),
FOREIGN KEY (order_id) REFERENCES Orders(order_id),
FOREIGN KEY (customer_id) REFERENCES Customers(customer_id)
);
desc Payments;

CREATE TABLE Invoices
```

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

Field	Type	Null	Key	Default	Extra
payment_id	int	NO	PRI	NULL	
order_id	int	YES	MUL	NULL	
customer_id	int	YES	MUL	NULL	
payment_method	varchar(50)	YES		NULL	

```sql
CREATE TABLE Invoices
(
invoice_id int,
payment_id int,
price decimal(6,2),
invoice_date date,
Invoices_tax varchar(50),
PRIMARY KEY(invoice_id),
FOREIGN KEY (payment_id) REFERENCES Payments(payment_id)
);
desc Invoices;

/* Q2. Insert at least FIVE records in each table using SQL. */
```

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

Field	Type	Null	Key	Default	Extra
invoice_id	int	NO	PRI	NULL	
payment_id	int	YES	MUL	NULL	
price	decimal(6,2)	YES		NULL	
invoice_date	date	YES		NULL	
Invoices_tax	varchar(50)	YES		NULL	

Q2

```
107    /* Q2. Insert at least FIVE records in each table using SQL. */
108    /* Customers row */
109    INSERT INTO Customers VALUES('1','Bryson','33 Thomas st,Hampton','0433937583','bryson@gmail.com');
110    INSERT INTO Customers VALUES('2','Amber','446 Elizabeth st, Melbourne','0428457482','amber@gmail.com');
111    INSERT INTO Customers VALUES('3','Tom','915 collins st','0423485984','tom@gmail.com');
112    INSERT INTO Customers VALUES('4','Yi','639 little lonsdale st','0433936599','yi@gmail.com');
113    INSERT INTO Customers VALUES('5','Yiu','200 Spencer st','0423435923','yiu@gmail.com');
114
115    select *
116    from Customers;
117
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

customer_id	name	address	phone_num	email
1	Bryson	33 Thomas st,Hampton	0433937583	bryson@gmail.com
2	Amber	446 Elizabeth st, Melbourne	0428457482	amber@gmail.com
3	Tom	915 collins st	0423485984	tom@gmail.com
4	Yi	639 little lonsdale st	0433936599	yi@gmail.com
5	Yiu	200 Spencer st	0423435923	yiu@gmail.com
NULL	NULL	NULL	NULL	NULL

```
---
119    /* Plans row */
120    INSERT INTO Plans VALUES('201','Base plan ',' 20','40','58.9');
121    INSERT INTO Plans VALUES('202','Essential plan','50','180','68.9');
122    INSERT INTO Plans VALUES('203','Base plan', '20','40','59.9');
123    INSERT INTO Plans VALUES('204','Preminum plan','100','300','89.9');
124    INSERT INTO Plans VALUES('205','Premium plan','100','300','89.9');
125    select *
126    from Plans;
127
128    /* CustomersPlans row */
129    INSERT INTO CustomerPlans VALUES('301','1','201','No lock-in contract
```

Result Grid | Filter Rows: | Edit: | Export/Import:

plan_id	plan_name	data_speed	limit_data	cost
201	Base plan	20	40	58.90
202	Essential plan	50	180	68.90
203	Base plan	20	40	59.90
204	Preminum plan	100	300	89.90
205	Premium plan	100	300	89.90
NULL	NULL	NULL	NULL	NULL

```
128    /* CustomersPlans row */
129    INSERT INTO CustomerPlans VALUES('301','1','201','No lock-in contract');
130    INSERT INTO CustomerPlans VALUES('302','3','203','No lock-in contract');
131    INSERT INTO CustomerPlans VALUES('303','5','205','No lock-in contract');
132    INSERT INTO CustomerPlans VALUES('304','4','204','No lock-in contract');
133    INSERT INTO CustomerPlans VALUES('305','2','202','No lock-in contract');
134
135    select *
136    from CustomerPlans;
137
138    /* Orders row */
139    INSERT INTO Orders VALUES('401','1','1323.3','2022-8-29');
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell

customerplan_id	customer_id	plan_id	decripition
301	1	201	No lock-in contract
302	3	203	No lock-in contract
303	5	205	No lock-in contract
304	4	204	No lock-in contract
305	2	202	No lock-in contract
NULL	NULL	NULL	NULL

```
137
138     /* Orders row */
139     INSERT INTO Orders VALUES('401','1','1323.3','2022-8-29');
140     INSERT INTO Orders VALUES('402','4','1523.3','2022-8-31');
141     INSERT INTO Orders VALUES('403','2','1523.3','2022-9-3');
142     INSERT INTO Orders VALUES('404','3','1323.3','2022-8-12');
143     INSERT INTO Orders VALUES('405','5','1423.3','2022-8-22');
144
145     select *
146     from Orders;
147
148     /* Phones row */
```

Result Grid | Filter Rows: | Edit: | Export/Import:

order_id	customer_id	total	order_date
401	1	1323.30	2022-08-29
402	4	1523.30	2022-08-31
403	2	1523.30	2022-09-03
404	3	1323.30	2022-08-12
405	5	1423.30	2022-08-22
NULL	NULL	NULL	NULL

```
148     /* Phones row */
149     INSERT INTO Phones VALUES('1','iphone','ios','64');
150     INSERT INTO Phones VALUES('2','iphone','ios','128');
151     INSERT INTO Phones VALUES('3','Samsung','Android','256');
152     INSERT INTO Phones VALUES('4','iphone','ios','128');
153     INSERT INTO Phones VALUES('5','Samsung','Android','512');
154
155     select *
156     from Phones;
157
```

Result Grid | Filter Rows: | Edit: | Export/Import

phone_id	maker	phone_System	phone_storage	Colour
1	iphone	ios	64	White
2	iphone	ios	128	Yellow
3	Samsung	Android	256	Pink
4	iphone	ios	128	Gray
5	Samsung	Android	512	Blue
NULL	NULL	NULL	NULL	NULL

```
158     /* PhoneOrders row */
159     INSERT INTO PhoneOrder VALUES('101','401','1','859.9');
160     INSERT INTO PhoneOrder VALUES('102','402','2','1259.9');
161     INSERT INTO PhoneOrder VALUES('103','403','3','1459.9');
162     INSERT INTO PhoneOrder VALUES('104','404','4','1259.9');
163     INSERT INTO PhoneOrder VALUES('105','405','5','1859.9');
164     select *
165     from PhoneOrder;
166
```

Result Grid | Filter Rows: | Edit: | Export/Import:

phoneorder_id	order_id	phone_id	price
101	401	1	859.90
102	402	2	1259.90
103	403	3	1459.90
104	404	4	1259.90
105	405	5	1859.90
NULL	NULL	NULL	NULL

```
/* Returns row */
INSERT INTO Returns VALUES('10','5','401','The customer ordered the wrong product or size');
INSERT INTO Returns VALUES('11','1','402','The merchant shipped the wrong product or size');
INSERT INTO Returns VALUES('12','2','403','The product was damaged or defective');
INSERT INTO Returns VALUES('13','4','404','The product arrived too late. ...');
INSERT INTO Returns VALUES('14','3','405','The product arrived too late. ...');
select *
from Returns;
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

return_id	customer_id	order_id	return_reason
10	5	401	The customer ordered the wrong product or size
11	1	402	The merchant shipped the wrong product or size
12	2	403	The product was damage
13	4	404	The product arrived too late. ...
14	3	405	The product arrived too late. ...
NULL	NULL	NULL	NULL

The product was damaged or defective

```
/* Payments row */
INSERT INTO Payments VALUES('101','405','1','debit');
INSERT INTO Payments VALUES('102','403','4','debit');
INSERT INTO Payments VALUES('103','402','3','cash');
INSERT INTO Payments VALUES('104','401','2','debit');
INSERT INTO Payments VALUES('105','404','5','debit');
select *
from Payments;
```

Result Grid | Filter Rows: | Edit: | Export/Ir

payment_id	order_id	customer_id	payment_method
101	405	1	debit
102	403	4	debit
103	402	3	cash
104	401	2	debit
105	404	5	debit
NULL	NULL	NULL	NULL

```
/* Invoices row */
INSERT INTO Invoices VALUES('10001','101','1900','2022-8-29','50');
INSERT INTO Invoices VALUES('10002','102','1700','2022-8-21','90');
INSERT INTO Invoices VALUES('10003','103','2100','2022-8-27','100');
INSERT INTO Invoices VALUES('10004','104','1500','2022-8-28','60');
INSERT INTO Invoices VALUES('10005','105','1800','2022-8-26','30');
select *
from Invoices;
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wra

invoice_id	payment_id	price	invoice_date	Invoices_tax
10001	101	1900.00	2022-08-29	50
10002	102	1700.00	2022-08-21	90
10003	103	2100.00	2022-08-27	100
10004	104	1500.00	2022-08-28	60
10005	105	1800.00	2022-08-26	30
NULL	NULL	NULL	NULL	NULL

Q3

```
193
194   /*3. Write and run an SQL statement to add one additional column
195    (attribute) in any one of the existing tables with a default value.*/
196   ALTER TABLE Phones
197   ADD COLUMN Colour varchar(10) DEFAULT 'Black';
198   select *
199   from Phones;
200
201
202   /* 4. Write and run an SQL statement to update the default value
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wra

phone_id	maker	phone_System	phone_storage	Colour
1	iphone	ios	64	Black
2	iphone	ios	128	Black
3	Samsung	Android	256	Black
4	iphone	ios	128	Black
5	Samsung	Android	512	Black
NULL	NULL	NULL	NULL	NULL

Q4

```
202   /* 4. Write and run an SQL statement to update the default value
203    of the newly added column to a different value for certain rows based
204    on a condition using any other column.*/
205   UPDATE Phones  SET Colour = 'Blue' WHERE phone_id =1;
206   UPDATE Phones SET Colour = 'Pink' WHERE phone_id =2;
207   UPDATE Phones SET Colour = 'White' WHERE phone_id =3;
208   UPDATE Phones SET Colour = 'White' WHERE phone_id =4;
209   UPDATE Phones SET Colour = 'Gray' WHERE phone_id =5;
210   select *
211   from Phones;
212
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap

phone_id	maker	phone_System	phone_storage	Colour
1	iphone	ios	64	Blue
2	iphone	ios	128	Pink
3	Samsung	Android	256	White
4	iphone	ios	128	White
5	Samsung	Android	512	Gray
NULL	NULL	NULL	NULL	NULL

Q5

```
213  /* Q5 a) Write an SQL query to demonstrate the use of SELECT with INNER JOIN and ORDER BY.*/
214  select Customers.customer_id,CustomerPlans.customer_id
215  from Customers
216  Inner Join CustomerPlans
217  On Customers.customer_id = CustomerPlans.customer_id
218  ORDER BY Customers.customer_id;
219
220  /* Q5 b) Write an SQL query to demonstrate the use of SELECT with WHERE and IN.*/
221  SELECT *
```

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

customer_id	customer_id
1	1
2	2
3	3
4	4
5	5

```
220  /* Q5 b) Write an SQL query to demonstrate t
221  SELECT *
222  FROM Phones
223  WHERE phone_storage IN ('128');
224
225  /* Q5 c ) Write an SQL query to demonstrate
```

Result Grid | Filter Rows: | Edit:

phone_id	maker	phone_System	phone_storage	Colour
2	iphone	ios	128	Pink
4	iphone	ios	128	White
NULL	NULL	NULL	NULL	NULL

```
225  /* Q5 c ) Write an SQL query to c
226  select *
227  from Orders
228  where order_date = '2022-8-22';
229
```

Result Grid | Filter Rows:

order_id	customer_id	total	order_date
405	5	1423.30	2022-08-22
NULL	NULL	NULL	NULL

```
/* d) Write an SQL statement to create a VIEW using a SELECT statement with a JOIN.
 Provide the statement to create the VIEW you want and demonstrate
 the output of the VIEW using 'SELECT * FROM <viewname>;'*/
create view view_Orders(view_order_id, view_customer_id,view_total, view_order_date)
as select order_id,customer_id,total,order_date from Orders;
SELECT * FROM view_Orders JOIN Payments
```

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

view_order_id	view_customer_id	view_total	view_order_date	payment_id	order_id	customer_id	payment_method
405	5	1423.30	2022-08-22	101	405	1	debit
404	3	1323.30	2022-08-12	101	405	1	debit
403	2	1523.30	2022-09-03	101	405	1	debit
402	4	1523.30	2022-08-31	101	405	1	debit
401	1	1323.30	2022-08-29	101	405	1	debit

Result 72