



Database Analysis & Design

INF10002

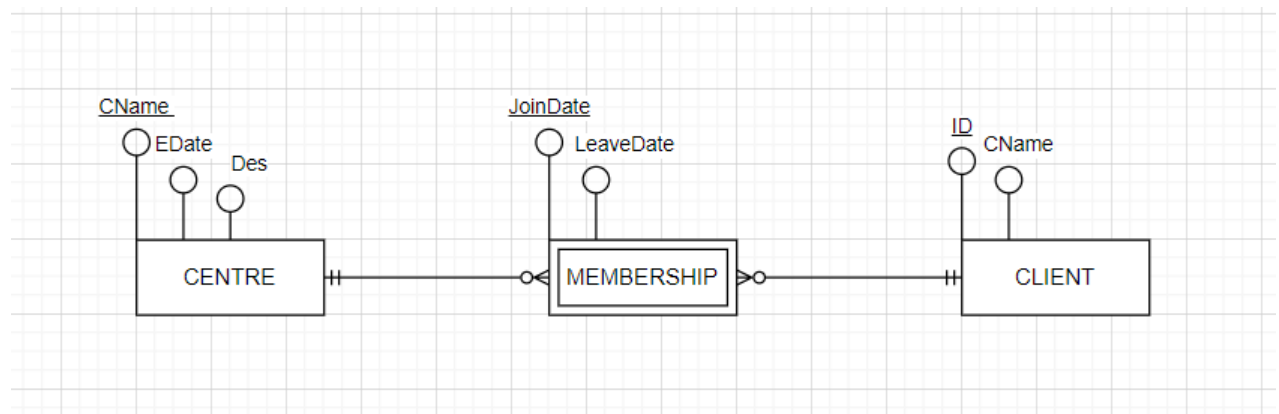
Task 5 – Credit Submission

Student Number: 103181157

Student Name: Nguyen Nam Tung

Credit 5a

Paste your screen capture(s) for this task here.



CName	EDate	Des
Hawthorne	2003	Has discount in March
Glen Iris	2002	Holiday surcharge
Box Hill	2009	Monthly Payment

ID	CName
1	Nguyen Nam Tung
2	Alex
3	John

ID	CName	JoinDate	LeaveDate
1	Hawthorne	23/3/2022	26/09/2022
1	Hawthorne	30/09/2022	12/12/2022

2	Box Hill	15/10/2022	
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CENTRE (CName, Edate, Des)

PK (Cname)

CLIENT(ID, Cname)

PK (ID)

MEMBERSHIP (Cname, ID, JoinDate, LeaveDate)

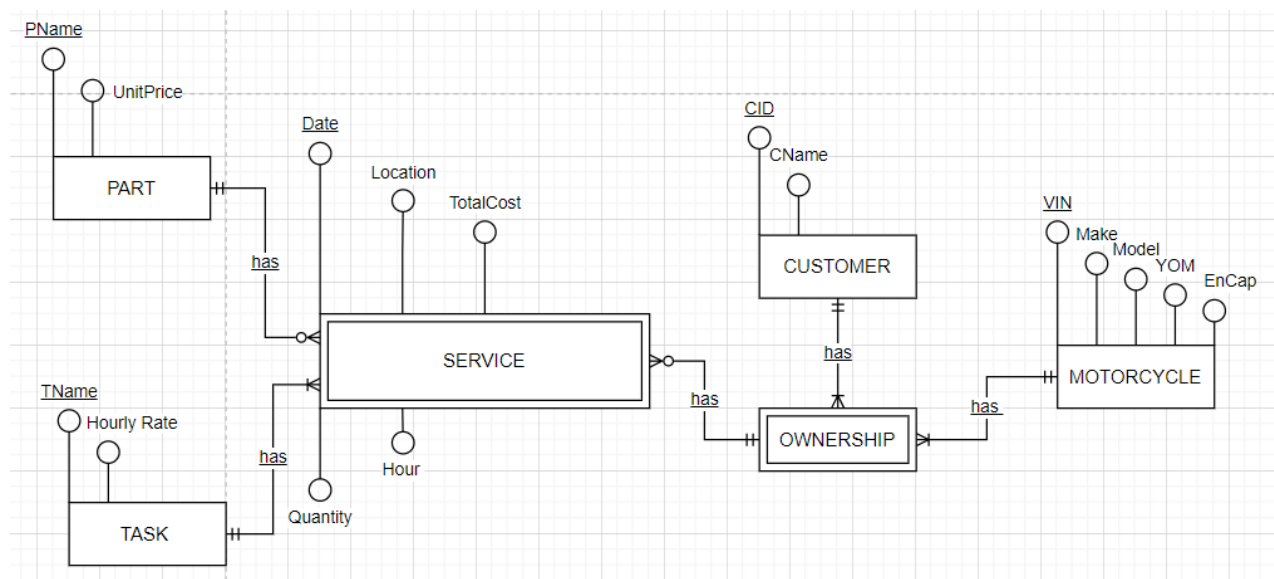
PK (Cname, ID, JoinDate)

FK (Cname) REFERENCES CENTRE

FK (ID) REFERENCES CLIENT

Credit 5b

Paste your screen capture(s) for this task here.



Credit 5c

Paste your screen capture(s) for this task here.

MOTORCYCLE (VIN, Make, Model, YOM, EnCap)

PK (VIN)

CUSTOMER (CID, CName)

PK (CID)

OWNERSHIP (CID, VIN)

PK (CID, VIN)

FK (CID) REFERENCES CUSTOMER

FK (VIN) REFERENCES MOTORCYCLE

PART (PName, Unit Price)

PK (PName)

TASK (TName, Hourly Rate)

PK (TName)

SERVICE (CID, VIN, PName, TName, Date, Location, TotalCost, Quantity, Hour)

PK (CID, VIN, PName, TName, Date)

FK (CID, VIN) REFERENCES OWNERSHIP

FK (PName) REFERENCES PART

FK (TName) REFERENCES TASK

Credit 5d

Paste your screen capture(s) for this task here.

```
CREATE TABLE MOTORCYCLE (
  VIN NUMBER,
```

```
  MAKE VARCHAR (100),
```

```
  MODEL VARCHAR (100),
```

```
  YOM DATE
```

```
  EnCap INT
```

```
  PRIMARY KEY (VIN)
```

```
);
```

```
CREATE TABLE CUSTOMER (
```

```
  CID INT,
```

```
  CNAME VARCHAR (100),
```

```
  PRIMARY KEY (CID)
```

```
);
```

```
CREATE TABLE OWNERSHIP (
```

```
  VIN INT,
```

```
CID INT,  
FOREIGN KEY (VIN) REFERENCES MOTORCYCLE (VIN)  
FOREIGN KEY (CID) REFERENCES CUSTOMER (CID)  
);
```

```
CREATE TABLE PART (  
PNAME VARCHAR (100),  
  
UNITCOST INT,  
PRIMARY KEY (PNAME)  
);
```

```
CREATE TABLE TASK (  
TNAME VARCHAR (100),  
HOURLY RATE INT  
  
PRIMARY KEY (TNAME)  
);
```

```
CREATE TABLE SERVICE (  
  
CID INT  
  
VIN INT  
  
PNAME VARCHAR (100)  
TNAME VARCHAR (100)  
  
DATE DATE  
  
LOCATION VARCHAR (100)  
  
TOTAL COST INT  
  
QUANTITY INT  
  
HOUR INT  
  
PRIMARY KEY (CID)  
  
PRIMARY KEY (VIN)  
  
PRIMARY KEY (PNAME)  
  
PRIMARY KEY (TNAME)  
  
PRIMARY KEY (DATE)  
  
FOREIGN KEY (CID) REFERENCES OWNERSHIP (CID)  
FOREIGN KEY (VIN) REFERENCES OWNERSHIP (VIN)  
FOREIGN KEY (PNAME) REFERENCES PART (PNAME)  
FOREIGN KEY (TNAME) REFERENCES CUSTOMER (CID)
```

Credit 5e

Paste your screen capture(s) for this task here.

CustID	Name	Phone
125	John Coles	0401112233
278	Erin Trump	0466121455
721	Emma Knox	0423544117

CarRego	MakeModel
1AU8HK	Mazda 3
1KA2CA	Toyota
1CZ8JK	Camry
1LM3AB	Hyundai i30

CustID	CarRego	StartDate	ReturnDate
125	1AU8HK	31/08/2020	7/09/2020
125	1LM3AB	14/11/2020	21/11/2020
278	1AU8HK	12/09/2020	19/09/2020
278	1KA2CA	1/10/2020	8/10/2020
278	1CZ8JK	10/11/2020	12/11/2020
278	1AU8HK	26/11/2020	1/12/2020
721	1LM3AB	10/09/2020	13/09/2020

Credit 5f

Paste your screen capture(s) for this task here.

START TRANSACTION

INSERT INTO ACTION (ActionID, ActionDateTime, Action, ProdID, ProdQty, ProdCost)

VALUES (1008, 21/01/2001, Purchase, G43546, 2, 2100);

UPDATE PRODUCT

SET QtyInstock = QtyInstock + 2

```
INSERT INTO ACTION (ActionID, ActionDateTime, Action, ProdID, ProdQty, ProdCost)
VALUES (1026, 23/01/2021, Return, G43546, -1, 1050);

UPDATE PRODUCT
SET QtyInStock = QtyInStock +1;

END TRANSACTION
```

Explain when the sale or refund operation can go smoothly or go wrong.

- A sale can go easily when there are 0 products brought or discounted
- In addition, transaction will be smooth if the quantity of bought products is a smaller amount than the quantity of products available
- A sale can have errors if the product amount available is 0 or the quantity bought is greater the quantity available.
- A refund fails if product refund amount is 0.
- Both actions will fail if during the exchange, it occurs an electrical blackout
- Transaction committed refers to the successful transaction that make all the changes permanent
- Transaction roll back refers to the unsuccessful transaction that make all the changes cancelled