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| **Course Name** | **Database System Design** | | **Course Code** | **COMP508/02** | **Assignment Due Date** | | 7th June 2023 |
| **Lecturer** | **Mali Senapathi** | | **Tutorial Day** | **Thursday** | **Date Submitted** | | 6th June 2023 |
| **Tutor** | Shoba Tegginmath | | **Tutorial Time** | **2pm – 4pm** | **No. Words/Pages** | | **Not applicable** |
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| **22168889** | **Nikisha Chhima** | | |  | | **5/06/2023** | |
| **21154291** | **Naomi Wiggins** | | |  | | **5/06/2023** | |
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# Part A Entity Relationship Modelling and Logical Database Design (35 marks)

## Task 1 Identify Entities & Develop Business Rules [10 marks]

## Each Sessions must be selected by one Customer.

## Each Customer must select at least one Sessions.

## Each Sessions may produce many Digitalised\_photo.

## Each Digitalised\_photo must be produced by one Sessions.

## Each Customer must be emailed at least one Digitalised\_photo.

## Each Digitalised\_photo must be emailed to one Customer.

## Each Customer may supply at least one Billing\_address.

## Each Billing\_addres must be supplied by one Customer.

## Each Customer may create many Orders.

## Each Orders must belong to one Customer.

## Each Digitalised\_photo may become many Selected\_photo.

## Each Selected\_photo must come from one Digitalised\_photo.

## Each Orders must have one Photo\_collection.

## Each Photo\_collection may have many Orders.

## Each Billing\_address may be contained by one Photo\_collection.

## Each Photo\_collection may contain one Billing\_address.

## Each Destination\_address may be contained by many Photo\_collection.

## Each Photo\_collection may contain one Destination\_address.

## Each Total\_cost must reference to one Photo\_collection.

## Each Photo\_collection may be referenced by many Total cost.

## Each Selected\_photo may be contained by many Selected\_photo\_combination\_no\_copies.

## Each Selected\_photo\_combination\_ no\_copies must contain one Selected\_photo.

## Each Total\_cost must reference one Selected\_photo\_combination\_ no\_copies.

## Each Selected\_photo\_combination\_ no\_copies may be referenced by many Total\_cost.

## Each Combination may be utilized by many Selected\_photo\_combination\_ no\_copies.

## Each Selected\_photo\_combination\_ no\_copies must utilize one Combination.

## Each Orders must have one Total\_cost.

## Each Total\_cost must belong to one Orders.

## A picture containing text, diagram, screenshot, plan Description automatically generatedTask 2 Construct a logical Entity Relationship Diagram (ERD) [25 marks]

# Part B Database Implementation (35 marks)

## Task 3 Create tables [25 marks]

CREATE TABLE Customer(

acc\_id VARCHAR(6),

first\_name VARCHAR2(20) NOT NULL,

last\_name VARCHAR2(20) NOT NULL,

org\_name VARCHAR2(20),

phone\_no NUMBER(10) NOT NULL,

email VARCHAR2(30) NOT NULL,

CONSTRAINT customer\_acc\_id\_pk PRIMARY KEY (acc\_id));

SELECT \* FROM Customer;

CREATE TABLE Sessions(

session\_id VARCHAR2(8),

session\_date DATE,

session\_start\_time VARCHAR2(10),

session\_location VARCHAR2(5) NOT NULL,

session\_reason VARCHAR2(20) NOT NULL,

session\_refund CHAR(1),

acc\_id VARCHAR(6),

CONSTRAINT sessions\_session\_id\_pk PRIMARY KEY (session\_id),

CONSTRAINT sessions\_session\_date\_ck CHECK (session\_date >= TO\_DATE ('01-06-2023', 'DD-MM-YYYY')),

CONSTRAINT sessions\_session\_refund\_ck CHECK (session\_refund IN ('REFUNDED', 'PENDING', 'CANCELLED')),

CONSTRAINT sessions\_acc\_id\_fk FOREIGN KEY (acc\_id) REFERENCES Customer(acc\_id));

ALTER TABLE Sessions

MODIFY (session\_refund VARCHAR2(10));

ALTER TABLE Sessions

MODIFY (session\_location VARCHAR2(6));

ALTER TABLE Sessions

ADD (session\_price NUMBER(5));

SELECT \* FROM Sessions;

CREATE TABLE Billing\_address(

add\_id VARCHAR2(6),

street VARCHAR(20) NOT NULL,

suburb VARCHAR(20) NOT NULL,

city VARCHAR(20) NOT NULL,

postcode NUMBER(6) NOT NULL,

acc\_id VARCHAR(6),

CONSTRAINT billing\_add\_id\_pk PRIMARY KEY (add\_id),

CONSTRAINT billing\_acc\_id\_fk FOREIGN KEY (acc\_id) REFERENCES Customer(acc\_id));

SELECT \* FROM Billing\_address;

CREATE TABLE Digitalised\_photo(

photo\_no NUMBER(6),

session\_id VARCHAR2(8),

acc\_id VARCHAR(6),

CONSTRAINT digitalised\_photo\_no\_pk PRIMARY KEY (photo\_no),

CONSTRAINT digitalised\_session\_id\_fk FOREIGN KEY (session\_id) REFERENCES Sessions(session\_id),

CONSTRAINT digitalised\_acc\_id\_fk FOREIGN KEY (acc\_id) REFERENCES Customer(acc\_id));

SELECT \* FROM Digitalised\_photo;

CREATE TABLE Destination\_address(

dest\_add\_id VARCHAR2(6),

dest\_street VARCHAR(20),

dest\_suburb VARCHAR(20),

dest\_city VARCHAR(20),

dest\_postcode NUMBER(6),

CONSTRAINT destination\_dest\_add\_id\_pk PRIMARY KEY (dest\_add\_id));

SELECT \* FROM Destination\_address;

CREATE TABLE Photo\_collection(

collection\_no NUMBER(10),

postal\_charge NUMBER(8),

add\_id VARCHAR2(6),

dest\_add\_id VARCHAR2(6),

CONSTRAINT collection\_collection\_no\_pk PRIMARY KEY (collection\_no),

CONSTRAINT collection\_postal\_charge\_ck CHECK (postal\_charge >= 0),

CONSTRAINT collection\_add\_id\_fk FOREIGN KEY (add\_id) REFERENCES Billing\_address(add\_id),

CONSTRAINT collection\_dest\_add\_id\_fk FOREIGN KEY (dest\_add\_id) REFERENCES Destination\_address(dest\_add\_id));

SELECT \* FROM Photo\_collection;

CREATE TABLE Selected\_photo(

selected\_no NUMBER(8),

photo\_no NUMBER(6),

CONSTRAINT selected\_selected\_no\_pk PRIMARY KEY (selected\_no),

CONSTRAINT selected\_photo\_no\_fk FOREIGN KEY (photo\_no) REFERENCES Digitalised\_photo(photo\_no));

SELECT \* FROM Selected\_photo;

CREATE TABLE Combination(

combination\_no VARCHAR2(6),

photo\_colour VARCHAR(10) NOT NULL,

photo\_size VARCHAR(7) NOT NULL,

photo\_finish VARCHAR(5) NOT NULL,

combination\_cost NUMBER(5),

CONSTRAINT combination\_combination\_no\_pk PRIMARY KEY (combination\_no),

CONSTRAINTS combination\_combination\_cost\_ck CHECK (combination\_cost >= 0));

ALTER TABLE Combination

MODIFY (photo\_colour VARCHAR2(15));

ALTER TABLE Combination

MODIFY (combination\_cost NUMBER(5,2));

SELECT \* FROM Combination;

CREATE TABLE Selected\_photo\_combination\_no\_copies(

selected\_no NUMBER(8),

combination\_no VARCHAR2(6),

no\_copies NUMBER(5) NOT NULL,

PRIMARY KEY (selected\_no, combination\_no),

CONSTRAINT Selected\_photo\_combination\_no\_copies\_selected\_no\_fk FOREIGN KEY (selected\_no) REFERENCES Selected\_photo(selected\_no),

CONSTRAINT Selected\_photo\_combination\_no\_copies\_combination\_no\_fk FOREIGN KEY (combination\_no) REFERENCES Combination(combination\_no));

SELECT \* FROM Selected\_photo\_combination\_no\_copies;

CREATE TABLE Total\_cost(

selected\_no NUMBER(8),

combination\_no VARCHAR2(6),

collection\_no NUMBER(10),

session\_id VARCHAR2(8),

PRIMARY KEY (selected\_no, combination\_no),

CONSTRAINT total\_cost\_selected\_no\_fk FOREIGN KEY (selected\_no) REFERENCES Selected\_photo(selected\_no),

CONSTRAINT total\_cost\_combination\_no\_fk FOREIGN KEY (combination\_no) REFERENCES Combination(combination\_no),

CONSTRAINT total\_cost\_collection\_no\_fk FOREIGN KEY (collection\_no) REFERENCES Photo\_collection(collection\_no),

CONSTRAINT total\_cost\_session\_id\_fk FOREIGN KEY (session\_id) REFERENCES Sessions(session\_id));

SELECT \* FROM Total\_cost;

CREATE TABLE Orders(

order\_id VARCHAR2(8),

acceptance\_date\_time DATE,

acc\_id VARCHAR(6),

collection\_no NUMBER(10),

selected\_no NUMBER(8),

combination\_no VARCHAR2(6),

CONSTRAINT order\_order\_id\_pk PRIMARY KEY (order\_id, selected\_no, combination\_no),

CONSTRAINT order\_selected\_no\_fk FOREIGN KEY (selected\_no) REFERENCES Selected\_photo(selected\_no),

CONSTRAINT order\_combination\_no\_fk FOREIGN KEY (combination\_no) REFERENCES Combination(combination\_no),

CONSTRAINT order\_acc\_id\_fk FOREIGN KEY (acc\_id) REFERENCES Customer(acc\_id),

CONSTRAINT order\_collection\_no\_fk FOREIGN KEY (collection\_no) REFERENCES Photo\_collection(collection\_no));

SELECT \* FROM Orders;

## Task 4 Populate data [10 marks]

# //CUSTOMER:

# INSERT INTO Customer (acc\_id, first\_name, last\_name, org\_name, phone\_no, email) VALUES ('C63630', 'Ruby', 'Myers', null, 0123456789, 'rubym@gmail.com');

# INSERT INTO Customer (acc\_id, first\_name, last\_name, org\_name, phone\_no, email) VALUES ('C95932', 'Braxton', 'Matthewson', null, 2343456678, 'braxxmatt@outlook.com');

# INSERT INTO Customer (acc\_id, first\_name, last\_name, org\_name, phone\_no, email) VALUES ('C05824', 'Vivian', 'Gold', null, 9877654239, 'goldie123@gmail.com');

# INSERT INTO Customer (acc\_id, first\_name, last\_name, org\_name, phone\_no, email) VALUES ('C60875', 'Clarice', 'Darby', null, 5670982847, 'clarie87@hotmail.com');

# INSERT INTO Customer (acc\_id, first\_name, last\_name, org\_name, phone\_no, email) VALUES ('C30147', 'Dixie', 'Irvine', 'Cadbury Chocolate', 8735610739, 'dirvine@outlook.com');

# INSERT INTO Customer (acc\_id, first\_name, last\_name, org\_name, phone\_no, email) VALUES ('C06817', 'Cleve', 'Francis', null, 6484793209, 'Francis8274@hotmail.com');

# INSERT INTO Customer (acc\_id, first\_name, last\_name, org\_name, phone\_no, email) VALUES ('C63082', 'Tamsin', 'Chase', null, 02188882240, 'chasechaset@gmail.com');

# COMMIT;

# SELECT \* FROM Customer;

# //SESSIONS:

# INSERT INTO Sessions(session\_id, session\_date, session\_start\_time, session\_location, session\_reason, session\_refund, acc\_id, session\_price) VALUES ('S1872406', '07-06-2023', '8:30 am', 'Home', 'Birthday', 'CANCELLED', 'C63630', 400);

# INSERT INTO Sessions(session\_id, session\_date, session\_start\_time, session\_location, session\_reason, session\_refund, acc\_id, session\_price) VALUES ('S6488284', '10-07-2023', '1:30 pm', 'Beach', 'Wedding', 'PENDING', 'C95932', 400);

# INSERT INTO Sessions(session\_id, session\_date, session\_start\_time, session\_location, session\_reason, session\_refund, acc\_id, session\_price) VALUES ('S1144239', '01-08-2023', '11:30 am', 'Home', 'Wedding', 'REFUNDED', 'C05824', '-400');

# INSERT INTO Sessions(session\_id, session\_date, session\_start\_time, session\_location, session\_reason, session\_refund, acc\_id, session\_price) VALUES ('S1108895', '19-08-2023', '5:30 pm', 'Studio', 'Headshot', null, 'C60875', 275);

# INSERT INTO Sessions(session\_id, session\_date, session\_start\_time, session\_location, session\_reason, session\_refund, acc\_id, session\_price) VALUES ('S2112597', '11-09-2023', '8:30 am', 'Park', 'Dog Birthday', null, 'C30147', 400);

# INSERT INTO Sessions(session\_id, session\_date, session\_start\_time, session\_location, session\_reason, session\_refund, acc\_id, session\_price) VALUES ('S2859027', '06-10-2023', '10:00 am', 'Cafe', 'Professional', null, 'C06817', 400);

# INSERT INTO Sessions(session\_id, session\_date, session\_start\_time, session\_location, session\_reason, session\_refund, acc\_id, session\_price) VALUES ('S4853449', '01-11-2023', '8:30 am', 'Studio', 'Christmas', null, 'C63082', 250);

# INSERT INTO Sessions(session\_id, session\_date, session\_start\_time, session\_location, session\_reason, session\_refund, acc\_id, session\_price) VALUES ('S1427915', '16-10-2023', '11:30 am', 'Studio', 'Wedding', null, 'C05824', 250);

# COMMIT;

# A screenshot of a computer Description automatically generated with medium confidenceSELECT \* FROM Sessions;

# //BILLING ADDRESS:

# INSERT INTO Billing\_address (add\_id, street, suburb, city, postcode, acc\_id) VALUES ('62TEDR', '62 Teal Drive', 'Glendale', 'Orfort', 2018, 'C63630');

# INSERT INTO Billing\_address (add\_id, street, suburb, city, postcode, acc\_id) VALUES ('88DACL', '88 Dale Close', 'Foxcroft', 'Clearford', 2119, 'C95932');

# INSERT INTO Billing\_address (add\_id, street, suburb, city, postcode, acc\_id) VALUES ('34LOLA', '34 Lower Lane', 'Abbey Park', 'Barrowbeach', 6789, 'C05824');

# INSERT INTO Billing\_address (add\_id, street, suburb, city, postcode, acc\_id) VALUES ('17POAV', '17 Poplar Avenue', 'Orchard', 'Valhurst', 2357, 'C60875');

# INSERT INTO Billing\_address (add\_id, street, suburb, city, postcode, acc\_id) VALUES ('49BRST', '49 Brown Street', 'Warren', 'Goldholt', 6879, 'C30147');

# INSERT INTO Billing\_address (add\_id, street, suburb, city, postcode, acc\_id) VALUES ('12HAST', '12 Hall Street', 'Dannemora', 'Linpond', 5422, 'C06817');

# INSERT INTO Billing\_address (add\_id, street, suburb, city, postcode, acc\_id) VALUES ('54FODR', '54 Forge Drive', 'Maddle Hill', 'Mistwick', 7943, 'C63082');

# COMMIT;

# SELECT \* FROM Billing\_address;

# A screenshot of a computer Description automatically generated with medium confidence

# //DIGITALISED PHOTO:

# INSERT INTO Digitalised\_photo (photo\_no, session\_id, acc\_id) VALUES (110880, 'S1108895', 'C60875');

# INSERT INTO Digitalised\_photo (photo\_no, session\_id, acc\_id) VALUES (110881, 'S1108895', 'C60875');

# INSERT INTO Digitalised\_photo (photo\_no, session\_id, acc\_id) VALUES (110882, 'S1108895', 'C60875');

# INSERT INTO Digitalised\_photo (photo\_no, session\_id, acc\_id) VALUES (110883, 'S1108895', 'C60875');

# INSERT INTO Digitalised\_photo (photo\_no, session\_id, acc\_id) VALUES (110884, 'S1108895', 'C60875');

# INSERT INTO Digitalised\_photo (photo\_no, session\_id, acc\_id) VALUES (110885, 'S1108895', 'C60875');

# INSERT INTO Digitalised\_photo (photo\_no, session\_id, acc\_id) VALUES (110886, 'S1108895', 'C60875');

# INSERT INTO Digitalised\_photo (photo\_no, session\_id, acc\_id) VALUES (110887, 'S1108895', 'C60875');

# INSERT INTO Digitalised\_photo (photo\_no, session\_id, acc\_id) VALUES (110888, 'S1108895', 'C60875');

# INSERT INTO Digitalised\_photo (photo\_no, session\_id, acc\_id) VALUES (110889, 'S1108895', 'C60875');

# INSERT INTO Digitalised\_photo (photo\_no, session\_id, acc\_id) VALUES (211250, 'S2112597', 'C30147');

# INSERT INTO Digitalised\_photo (photo\_no, session\_id, acc\_id) VALUES (211251, 'S2112597', 'C30147');

# INSERT INTO Digitalised\_photo (photo\_no, session\_id, acc\_id) VALUES (211252, 'S2112597', 'C30147');

# INSERT INTO Digitalised\_photo (photo\_no, session\_id, acc\_id) VALUES (211253, 'S2112597', 'C30147');

# INSERT INTO Digitalised\_photo (photo\_no, session\_id, acc\_id) VALUES (211254, 'S2112597', 'C30147');

# INSERT INTO Digitalised\_photo (photo\_no, session\_id, acc\_id) VALUES (211255, 'S2112597', 'C30147');

# INSERT INTO Digitalised\_photo (photo\_no, session\_id, acc\_id) VALUES (211256, 'S2112597', 'C30147');

# INSERT INTO Digitalised\_photo (photo\_no, session\_id, acc\_id) VALUES (211257, 'S2112597', 'C30147');

# INSERT INTO Digitalised\_photo (photo\_no, session\_id, acc\_id) VALUES (211258, 'S2112597', 'C30147');

# INSERT INTO Digitalised\_photo (photo\_no, session\_id, acc\_id) VALUES (211259, 'S2112597', 'C30147');

# INSERT INTO Digitalised\_photo (photo\_no, session\_id, acc\_id) VALUES (285900, 'S2859027', 'C06817');

# INSERT INTO Digitalised\_photo (photo\_no, session\_id, acc\_id) VALUES (285901, 'S2859027', 'C06817');

# INSERT INTO Digitalised\_photo (photo\_no, session\_id, acc\_id) VALUES (285902, 'S2859027', 'C06817');

# INSERT INTO Digitalised\_photo (photo\_no, session\_id, acc\_id) VALUES (285903, 'S2859027', 'C06817');

# INSERT INTO Digitalised\_photo (photo\_no, session\_id, acc\_id) VALUES (285904, 'S2859027', 'C06817');

# INSERT INTO Digitalised\_photo (photo\_no, session\_id, acc\_id) VALUES (285905, 'S2859027', 'C06817');

# INSERT INTO Digitalised\_photo (photo\_no, session\_id, acc\_id) VALUES (285906, 'S2859027', 'C06817');

# INSERT INTO Digitalised\_photo (photo\_no, session\_id, acc\_id) VALUES (285907, 'S2859027', 'C06817');

# INSERT INTO Digitalised\_photo (photo\_no, session\_id, acc\_id) VALUES (285908, 'S2859027', 'C06817');

# INSERT INTO Digitalised\_photo (photo\_no, session\_id, acc\_id) VALUES (285909, 'S2859027', 'C06817');

# INSERT INTO Digitalised\_photo (photo\_no, session\_id, acc\_id) VALUES (485340, 'S4853449', 'C63082');

# INSERT INTO Digitalised\_photo (photo\_no, session\_id, acc\_id) VALUES (485341, 'S4853449', 'C63082');

# INSERT INTO Digitalised\_photo (photo\_no, session\_id, acc\_id) VALUES (485342, 'S4853449', 'C63082');

# INSERT INTO Digitalised\_photo (photo\_no, session\_id, acc\_id) VALUES (485343, 'S4853449', 'C63082');

# INSERT INTO Digitalised\_photo (photo\_no, session\_id, acc\_id) VALUES (485344, 'S4853449', 'C63082');

# INSERT INTO Digitalised\_photo (photo\_no, session\_id, acc\_id) VALUES (485345, 'S4853449', 'C63082');

# INSERT INTO Digitalised\_photo (photo\_no, session\_id, acc\_id) VALUES (485346, 'S4853449', 'C63082');

# INSERT INTO Digitalised\_photo (photo\_no, session\_id, acc\_id) VALUES (485347, 'S4853449', 'C63082');

# INSERT INTO Digitalised\_photo (photo\_no, session\_id, acc\_id) VALUES (485348, 'S4853449', 'C63082');

# INSERT INTO Digitalised\_photo (photo\_no, session\_id, acc\_id) VALUES (485349, 'S4853449', 'C63082');

# INSERT INTO Digitalised\_photo (photo\_no, session\_id, acc\_id) VALUES (187240, 'S1872406', 'C63630');

# INSERT INTO Digitalised\_photo (photo\_no, session\_id, acc\_id) VALUES (187241, 'S1872406', 'C63630');

# INSERT INTO Digitalised\_photo (photo\_no, session\_id, acc\_id) VALUES (187242, 'S1872406', 'C63630');

# INSERT INTO Digitalised\_photo (photo\_no, session\_id, acc\_id) VALUES (187243, 'S1872406', 'C63630');

# INSERT INTO Digitalised\_photo (photo\_no, session\_id, acc\_id) VALUES (187244, 'S1872406', 'C63630');

# INSERT INTO Digitalised\_photo (photo\_no, session\_id, acc\_id) VALUES (187245, 'S1872406', 'C63630');

# INSERT INTO Digitalised\_photo (photo\_no, session\_id, acc\_id) VALUES (187246, 'S1872406', 'C63630');

# INSERT INTO Digitalised\_photo (photo\_no, session\_id, acc\_id) VALUES (187247, 'S1872406', 'C63630');

# INSERT INTO Digitalised\_photo (photo\_no, session\_id, acc\_id) VALUES (187248, 'S1872406', 'C63630');

# INSERT INTO Digitalised\_photo (photo\_no, session\_id, acc\_id) VALUES (187249, 'S1872406', 'C63630');

# INSERT INTO Digitalised\_photo (photo\_no, session\_id, acc\_id) VALUES (142790, 'S1427915', 'C05824');

# INSERT INTO Digitalised\_photo (photo\_no, session\_id, acc\_id) VALUES (142791, 'S1427915', 'C05824');

# INSERT INTO Digitalised\_photo (photo\_no, session\_id, acc\_id) VALUES (142792, 'S1427915', 'C05824');

# INSERT INTO Digitalised\_photo (photo\_no, session\_id, acc\_id) VALUES (142793, 'S1427915', 'C05824');

# INSERT INTO Digitalised\_photo (photo\_no, session\_id, acc\_id) VALUES (142794, 'S1427915', 'C05824');

# INSERT INTO Digitalised\_photo (photo\_no, session\_id, acc\_id) VALUES (142795, 'S1427915', 'C05824');

# INSERT INTO Digitalised\_photo (photo\_no, session\_id, acc\_id) VALUES (142796, 'S1427915', 'C05824');

# INSERT INTO Digitalised\_photo (photo\_no, session\_id, acc\_id) VALUES (142797, 'S1427915', 'C05824');

# INSERT INTO Digitalised\_photo (photo\_no, session\_id, acc\_id) VALUES (142798, 'S1427915', 'C05824');

# INSERT INTO Digitalised\_photo (photo\_no, session\_id, acc\_id) VALUES (142799, 'S1427915', 'C05824');

# COMMIT;

# SELECT \* FROM Digitalised\_photo;

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# A picture containing text, screenshot, number, document Description automatically generated

# //DESTINATION ADDRESS:

# INSERT INTO Destination\_address (dest\_add\_id, dest\_street, dest\_suburb, dest\_city, dest\_postcode) VALUES ('DASTUD', '61 Mertz Drive', 'Quincy', 'Auckland', 1010);

# INSERT INTO Destination\_address (dest\_add\_id, dest\_street, dest\_suburb, dest\_city, dest\_postcode) VALUES ('DA0001', '42 Garder Way', 'Columbia', 'Bridgeport', 9271);

# INSERT INTO Destination\_address (dest\_add\_id, dest\_street, dest\_suburb, dest\_city, dest\_postcode) VALUES ('DA0201', '99 Tustin Avenue', 'Mt Gleichner', 'Gleichner', 2474);

# INSERT INTO Destination\_address (dest\_add\_id, dest\_street, dest\_suburb, dest\_city, dest\_postcode) VALUES ('DA0234', '53 Ike Mill', 'Orem', 'Hampshire', 8826);

# INSERT INTO Destination\_address (dest\_add\_id, dest\_street, dest\_suburb, dest\_city, dest\_postcode) VALUES ('DA0304', '39 Idell Court', 'Stockdon', 'Auckland', 5620);

# COMMIT;

# A screenshot of a computer Description automatically generated with medium confidenceSELECT \* FROM Destination\_address;

# //PHOTO COLLECTION:

# INSERT INTO Photo\_collection (collection\_no, postal\_charge, add\_id, dest\_add\_id) VALUES (00001, 5, '62TEDR', 'DASTUD');

# INSERT INTO Photo\_collection (collection\_no, postal\_charge, add\_id, dest\_add\_id) VALUES (00021, 10, '17POAV', null);

# INSERT INTO Photo\_collection (collection\_no, postal\_charge, add\_id, dest\_add\_id) VALUES (00502, 15, '49BRST', 'DA0001');

# INSERT INTO Photo\_collection (collection\_no, postal\_charge, add\_id, dest\_add\_id) VALUES (70008, 15, '12HAST', 'DA0201');

# INSERT INTO Photo\_collection (collection\_no, postal\_charge, add\_id, dest\_add\_id) VALUES (03041, 10, '54FODR', null);

# INSERT INTO Photo\_collection (collection\_no, postal\_charge, add\_id, dest\_add\_id) VALUES (08976, 15, '34LOLA' ,'DA0234');

# INSERT INTO Photo\_collection (collection\_no, postal\_charge, add\_id, dest\_add\_id) VALUES (40512, 10, '17POAV' ,'DA0304');

# COMMIT;

# SELECT \* FROM Photo\_collection;

# A screenshot of a computer Description automatically generated with medium confidence

# //SELECTED PHOTO:

# INSERT INTO Selected\_photo (selected\_no, photo\_no) VALUES (10000001, 110880);

# INSERT INTO Selected\_photo (selected\_no, photo\_no) VALUES (10000002, 110881);

# INSERT INTO Selected\_photo (selected\_no, photo\_no) VALUES (10000003, 110882);

# INSERT INTO Selected\_photo (selected\_no, photo\_no) VALUES (20000001, 211250);

# INSERT INTO Selected\_photo (selected\_no, photo\_no) VALUES (20000002, 211252);

# INSERT INTO Selected\_photo (selected\_no, photo\_no) VALUES (20000003, 211254);

# INSERT INTO Selected\_photo (selected\_no, photo\_no) VALUES (20000004, 211256);

# INSERT INTO Selected\_photo (selected\_no, photo\_no) VALUES (20000005, 211258);

# INSERT INTO Selected\_photo (selected\_no, photo\_no) VALUES (30000001, 285901);

# INSERT INTO Selected\_photo (selected\_no, photo\_no) VALUES (30000002, 285903);

# INSERT INTO Selected\_photo (selected\_no, photo\_no) VALUES (30000003, 285905);

# INSERT INTO Selected\_photo (selected\_no, photo\_no) VALUES (30000004, 285907);

# INSERT INTO Selected\_photo (selected\_no, photo\_no) VALUES (40000001, 485349);

# INSERT INTO Selected\_photo (selected\_no, photo\_no) VALUES (40000002, 485348);

# INSERT INTO Selected\_photo (selected\_no, photo\_no) VALUES (40000003, 485347);

# INSERT INTO Selected\_photo (selected\_no, photo\_no) VALUES (50000001, 187240);

# INSERT INTO Selected\_photo (selected\_no, photo\_no) VALUES (50000002, 187241);

# INSERT INTO Selected\_photo (selected\_no, photo\_no) VALUES (50000003, 187242);

# INSERT INTO Selected\_photo (selected\_no, photo\_no) VALUES (60000001, 142790);

# INSERT INTO Selected\_photo (selected\_no, photo\_no) VALUES (60000002, 142793);

# INSERT INTO Selected\_photo (selected\_no, photo\_no) VALUES (60000003, 142795);

# COMMIT;

# SELECT \* FROM Selected\_photo;

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# //COMBINATION:

# INSERT INTO combination (combination\_no, photo\_colour, photo\_size, photo\_finish, combination\_cost) VALUES ('CN0212', 'Colour', '5x7', 'Gloss', 0.8);

# INSERT INTO combination (combination\_no, photo\_colour, photo\_size, photo\_finish, combination\_cost) VALUES ('CN6783', 'Colour', '6x4', 'Matte', 0.55);

# INSERT INTO combination (combination\_no, photo\_colour, photo\_size, photo\_finish, combination\_cost) VALUES ('CN4529', 'BW', '10x18', 'Matte', 3.2);

# INSERT INTO combination (combination\_no, photo\_colour, photo\_size, photo\_finish, combination\_cost) VALUES ('CN9823', 'Colour', '6x4', 'Gloss', 0.85);

# INSERT INTO combination (combination\_no, photo\_colour, photo\_size, photo\_finish, combination\_cost) VALUES ('CN5759', 'Colour', '10x18', 'Gloss', 3.6);

# INSERT INTO combination (combination\_no, photo\_colour, photo\_size, photo\_finish, combination\_cost) VALUES ('CN7890', 'Sepia', '5x7', 'Gloss', 0.9);

# INSERT INTO combination (combination\_no, photo\_colour, photo\_size, photo\_finish, combination\_cost) VALUES ('CN0034', 'Sepia', '5x7', 'Matte', 0.6);

# INSERT INTO combination (combination\_no, photo\_colour, photo\_size, photo\_finish, combination\_cost) VALUES ('CN6830', 'BW', '10x18', 'Gloss', 3.5);

# INSERT INTO combination (combination\_no, photo\_colour, photo\_size, photo\_finish, combination\_cost) VALUES ('CN7883', 'Colour', '10x18', 'Matte', 3.7);

# INSERT INTO combination (combination\_no, photo\_colour, photo\_size, photo\_finish, combination\_cost) VALUES ('CN2874', 'Sepia', '10x18', 'Matte', 3.4);

# COMMIT;

# UPDATE combination

# SET photo\_colour = 'Black and White'

# WHERE combination\_no = 'CN6830';

# COMMIT;

# UPDATE combination

# SET photo\_colour = 'Black and White'

# WHERE combination\_no = 'CN4529';

# COMMIT;

# SELECT \* FROM combination;

# //SELECTED PHOTO COMBINATION NO COPIES:

INSERT INTO Selected\_photo\_combination\_no\_copies (selected\_no, combination\_no, no\_copies)

VALUES (10000001, 'CN0212', 5);

INSERT INTO Selected\_photo\_combination\_no\_copies (selected\_no, combination\_no, no\_copies)

VALUES (10000002, 'CN6783', 13);

INSERT INTO Selected\_photo\_combination\_no\_copies (selected\_no, combination\_no, no\_copies)

VALUES (10000003, 'CN4529', 17);

INSERT INTO Selected\_photo\_combination\_no\_copies (selected\_no, combination\_no, no\_copies)

VALUES (20000001, 'CN9823', 3);

INSERT INTO Selected\_photo\_combination\_no\_copies (selected\_no, combination\_no, no\_copies)

VALUES (20000002, 'CN5759', 7);

INSERT INTO Selected\_photo\_combination\_no\_copies (selected\_no, combination\_no, no\_copies)

VALUES (20000003, 'CN7890', 10);

INSERT INTO Selected\_photo\_combination\_no\_copies (selected\_no, combination\_no, no\_copies)

VALUES (20000004, 'CN0034', 2);

INSERT INTO Selected\_photo\_combination\_no\_copies (selected\_no, combination\_no, no\_copies)

VALUES (20000005, 'CN6830', 8);

INSERT INTO Selected\_photo\_combination\_no\_copies (selected\_no, combination\_no, no\_copies)

VALUES (30000001, 'CN7883', 1);

INSERT INTO Selected\_photo\_combination\_no\_copies (selected\_no, combination\_no, no\_copies)

VALUES (30000002, 'CN2874', 10);

INSERT INTO Selected\_photo\_combination\_no\_copies (selected\_no, combination\_no, no\_copies)

VALUES (30000003, 'CN7883', 6);

INSERT INTO Selected\_photo\_combination\_no\_copies (selected\_no, combination\_no, no\_copies)

VALUES (30000004, 'CN7883', 2);

INSERT INTO Selected\_photo\_combination\_no\_copies (selected\_no, combination\_no, no\_copies)

VALUES (40000001, 'CN5759', 7);

INSERT INTO Selected\_photo\_combination\_no\_copies (selected\_no, combination\_no, no\_copies)

VALUES (40000002, 'CN9823', 3);

INSERT INTO Selected\_photo\_combination\_no\_copies (selected\_no, combination\_no, no\_copies)

VALUES (40000003, 'CN2874', 10);

INSERT INTO Selected\_photo\_combination\_no\_copies (selected\_no, combination\_no, no\_copies)

VALUES (50000001, 'CN0212', 5);

INSERT INTO Selected\_photo\_combination\_no\_copies (selected\_no, combination\_no, no\_copies)

VALUES (50000002, 'CN6783', 13);

INSERT INTO Selected\_photo\_combination\_no\_copies (selected\_no, combination\_no, no\_copies)

VALUES (50000003, 'CN0034', 29);

INSERT INTO Selected\_photo\_combination\_no\_copies (selected\_no, combination\_no, no\_copies)

VALUES (10000001, 'CN2874', 10);

INSERT INTO Selected\_photo\_combination\_no\_copies (selected\_no, combination\_no, no\_copies)

VALUES (60000001, 'CN2874', 5);

INSERT INTO Selected\_photo\_combination\_no\_copies (selected\_no, combination\_no, no\_copies)

VALUES (60000002, 'CN9823', 3);

INSERT INTO Selected\_photo\_combination\_no\_copies (selected\_no, combination\_no, no\_copies)

VALUES (60000003, 'CN7883', 11);

COMMIT;

SELECT \* FROM Selected\_photo\_combination\_no\_copies;

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//TOTAL COST

INSERT INTO Total\_cost(selected\_no, combination\_no, collection\_no, session\_id) VALUES

(10000001, 'CN0212', 1, 'S1108895');

INSERT INTO Total\_cost(selected\_no, combination\_no, collection\_no, session\_id) VALUES

(10000002, 'CN6783', 1, 'S1108895');

INSERT INTO Total\_cost(selected\_no, combination\_no, collection\_no, session\_id) VALUES

(10000003, 'CN4529', 1, 'S1108895');

INSERT INTO Total\_cost(selected\_no, combination\_no, collection\_no, session\_id) VALUES

(20000001, 'CN9823', 21, 'S2112597');

INSERT INTO Total\_cost(selected\_no, combination\_no, collection\_no, session\_id) VALUES

(20000002, 'CN5759', 21, 'S2112597');

INSERT INTO Total\_cost(selected\_no, combination\_no, collection\_no, session\_id) VALUES

(20000003, 'CN7890', 21, 'S2112597');

INSERT INTO Total\_cost(selected\_no, combination\_no, collection\_no, session\_id) VALUES

(20000004, 'CN0034', 21, 'S2112597');

INSERT INTO Total\_cost(selected\_no, combination\_no, collection\_no, session\_id) VALUES

(20000005, 'CN6830', 21, 'S2112597');

INSERT INTO Total\_cost(selected\_no, combination\_no, collection\_no, session\_id) VALUES

(30000001, 'CN7883', 502, 'S2859027');

INSERT INTO Total\_cost(selected\_no, combination\_no, collection\_no, session\_id) VALUES

(30000002, 'CN2874', 502, 'S2859027');

INSERT INTO Total\_cost(selected\_no, combination\_no, collection\_no, session\_id) VALUES

(30000003, 'CN7883', 502, 'S2859027');

INSERT INTO Total\_cost(selected\_no, combination\_no, collection\_no, session\_id) VALUES

(30000004, 'CN7883', 502, 'S2859027');

INSERT INTO Total\_cost(selected\_no, combination\_no, collection\_no, session\_id) VALUES

(40000001, 'CN5759', 70008, 'S4853449');

INSERT INTO Total\_cost(selected\_no, combination\_no, collection\_no, session\_id) VALUES

(40000002, 'CN9823', 70008, 'S4853449');

INSERT INTO Total\_cost(selected\_no, combination\_no, collection\_no, session\_id) VALUES

(40000003, 'CN2874', 70008, 'S4853449');

INSERT INTO Total\_cost(selected\_no, combination\_no, collection\_no, session\_id) VALUES

(50000001, 'CN0212', 3041, 'S1872406');

INSERT INTO Total\_cost(selected\_no, combination\_no, collection\_no, session\_id) VALUES

(50000002, 'CN6783', 3041, 'S1872406');

INSERT INTO Total\_cost(selected\_no, combination\_no, collection\_no, session\_id) VALUES

(50000003, 'CN0034', 3041, 'S1872406');

COMMIT;

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Description automatically generated with medium confidenceSELECT \* FROM Total\_cost;

//ORDERS:

INSERT INTO Orders (order\_id, acceptance\_date\_time, acc\_id, collection\_no, selected\_no,

combination\_no) VALUES ('O5137560', '16/06/23', 'C63630', 3041, 50000001, 'CN0212');

INSERT INTO Orders (order\_id, acceptance\_date\_time, acc\_id, collection\_no, selected\_no,

combination\_no) VALUES ('O5137560', '16/06/23', 'C63630', 3041, 50000002, 'CN6783');

INSERT INTO Orders (order\_id, acceptance\_date\_time, acc\_id, collection\_no, selected\_no,

combination\_no) VALUES ('O5137560', '16/06/23', 'C63630', 3041, 50000003, 'CN0034');

INSERT INTO Orders (order\_id, acceptance\_date\_time, acc\_id, collection\_no, selected\_no,

combination\_no) VALUES ('O3826932', '24/08/23', 'C60875', 1, 10000001, 'CN0212');

INSERT INTO Orders (order\_id, acceptance\_date\_time, acc\_id, collection\_no, selected\_no,

combination\_no) VALUES ('O3826932', '24/08/23', 'C60875', 1, 10000002, 'CN6783');

INSERT INTO Orders (order\_id, acceptance\_date\_time, acc\_id, collection\_no, selected\_no,

combination\_no) VALUES ('O3826932', '24/08/23', 'C60875', 1, 10000003, 'CN4529');

INSERT INTO Orders (order\_id, acceptance\_date\_time, acc\_id, collection\_no, selected\_no,

combination\_no) VALUES ('O8843850', '25/09/23', 'C30147', 21, 20000002, 'CN5759');

INSERT INTO Orders (order\_id, acceptance\_date\_time, acc\_id, collection\_no, selected\_no,

combination\_no) VALUES ('O8843850', '25/09/23', 'C30147', 21, 20000001, 'CN9823');

INSERT INTO Orders (order\_id, acceptance\_date\_time, acc\_id, collection\_no, selected\_no,

combination\_no) VALUES ('O8843850', '25/09/23', 'C30147', 21, 20000001, 'CN7883');

INSERT INTO Orders (order\_id, acceptance\_date\_time, acc\_id, collection\_no, selected\_no,

combination\_no) VALUES ('O8843850', '25/09/23', 'C30147', 21, 20000003, 'CN7890');

INSERT INTO Orders (order\_id, acceptance\_date\_time, acc\_id, collection\_no, selected\_no,

combination\_no) VALUES ('O8843850', '25/09/23', 'C30147', 21, 20000004, 'CN0034');

INSERT INTO Orders (order\_id, acceptance\_date\_time, acc\_id, collection\_no, selected\_no,

combination\_no) VALUES ('O8843850', '25/09/23', 'C30147', 21, 20000005, 'CN6830');

INSERT INTO Orders (order\_id, acceptance\_date\_time, acc\_id, collection\_no, selected\_no,

combination\_no) VALUES ('O5969215', '21/10/23', 'C06817', 502, 30000001, 'CN7883');

INSERT INTO Orders (order\_id, acceptance\_date\_time, acc\_id, collection\_no, selected\_no,

combination\_no) VALUES ('O5969215', '21/10/23', 'C06817', 502, 30000002, 'CN2874');

INSERT INTO Orders (order\_id, acceptance\_date\_time, acc\_id, collection\_no, selected\_no,

combination\_no) VALUES ('O5969215', '21/10/23', 'C06817', 502, 30000002, 'CN6783');

INSERT INTO Orders (order\_id, acceptance\_date\_time, acc\_id, collection\_no, selected\_no,

combination\_no) VALUES ('O5969215', '21/10/23', 'C06817', 502, 30000003, 'CN7883');

INSERT INTO Orders (order\_id, acceptance\_date\_time, acc\_id, collection\_no, selected\_no,

combination\_no) VALUES ('O5969215', '21/10/23', 'C06817', 502, 30000004, 'CN7883');

INSERT INTO Orders (order\_id, acceptance\_date\_time, acc\_id, collection\_no, selected\_no,

combination\_no) VALUES ('O2844563', '07/11/23', 'C63082', 70008, 40000001, 'CN5759');

INSERT INTO Orders (order\_id, acceptance\_date\_time, acc\_id, collection\_no, selected\_no,

combination\_no) VALUES ('O2844563', '07/11/23', 'C63082', 70008, 40000002, 'CN9823');

INSERT INTO Orders (order\_id, acceptance\_date\_time, acc\_id, collection\_no, selected\_no,

combination\_no) VALUES ('O2844563', '07/11/23', 'C63082', 70008, 40000002, 'CN5759');

INSERT INTO Orders (order\_id, acceptance\_date\_time, acc\_id, collection\_no, selected\_no,

combination\_no) VALUES ('O2844563', '07/11/23', 'C63082', 70008, 40000003, 'CN2874');

INSERT INTO Orders (order\_id, acceptance\_date\_time, acc\_id, collection\_no, selected\_no,

combination\_no) VALUES ('O8451179', '26-08-2023', 'C60875', 40512, 10000001, 'CN2874');

COMMIT;

# A screenshot of a computer Description automatically generated with medium confidenceSELECT \* FROM Orders;

# Part C Construct SQL Queries (30 marks)

## Task 5 Construct SQL Queries [30 marks]

**Purpose:**

Generate a report to display the full name (concatenation of first and last names) of each customer, their billing address, order id, postal charge, session price, cost of prints then the total cost for each order. The output should be displayed so that the total cost is rounded to 1 decimal place.

**SQL statement:**

SELECT first\_name || ' ' || last\_name AS "Full Name", street || ', ' || suburb || ', ' || city || ', ' || postcode AS "Billing Address", order\_id, '$' || AVG(postal\_charge) AS "Postal Charge", '$' || AVG(session\_price) AS "Session Price", TO\_CHAR(SUM(combination\_cost), '$999.99') AS "Cost of prints", TO\_CHAR((AVG(postal\_charge) + AVG(session\_price) + SUM(combination\_cost)), '$999.99') AS "Total Cost"

FROM Customer c, Billing\_address b, Sessions s, Photo\_collection p, Selected\_photo\_combination\_no\_copies sc, digitalised\_photo d, selected\_photo se, combination cb, orders o

WHERE c.acc\_id = s.acc\_id

AND c.acc\_id = b.acc\_id

AND b.add\_id = p.add\_id

AND s.session\_id = d.session\_id

AND d.photo\_no = se.photo\_no

AND sc.selected\_no = se.selected\_no

AND cb.combination\_no = sc.combination\_no

AND o.selected\_no = se.selected\_no

AND o.combination\_no = cb.combination\_no

GROUP BY order\_id, first\_name || ' ' || last\_name, street || ', ' || suburb || ', ' || city || ', ' || postcode;

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Description automatically generated with medium confidence**Output:**

**Purpose:**

Generate a report to display the average, the maximum and minimum cost of prints for all customers combined. The output should be displayed the cost of prints in 2 decimal place.

**SQL statement:**

SELECT TO\_CHAR(MIN(combination\_cost), '$0.99') AS "The Minimum Cost of Prints", TO\_CHAR(MAX(combination\_cost), '$0.99') AS "The Maximum Cost of Prints", '$' || ROUND(AVG(combination\_cost),2) AS "The Average Cost of Prints"

FROM combination;

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Description automatically generated with low confidence**Output:**

**Purpose:**

Generate a report displaying the full name (concatenation of first and last names) of each customer, session date, session price, session reason and session refund who have sessions in the next 3 months. Sort the results by descending order of session date.

**SQL statement:**

SELECT first\_name || ' ' || last\_name AS "Full Name", session\_date, session\_price, session\_reason, NVL(session\_refund, 'NO REFUND') AS "Session Refund"

FROM Sessions s, Customer c

WHERE s.acc\_id = c.acc\_id

AND session\_date BETWEEN '07-06-2023' AND '07-09-2023'

ORDER BY session\_date DESC;

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Description automatically generated with low confidence**Output:**

**Purpose:**

Generate a report to display the full name (concatenation of first and last names) each customer that has a different address to their billing address for their photo collection, display each customers contact details (concatenation of their email address and phone number named “Contact Details”) and displaying their new billing address (Destination Address). The output should be displayed in an ascending order with respect to the customer’s last name.

**SQL statement:**

SELECT first\_name || ' ' || last\_name AS "Full Name", 'EMAIL ADDRESS: '||email||' PHONE NUMBER: '||phone\_no AS "Contact Details", dest\_street || ', ' || dest\_suburb || ', ' || dest\_city || ', ' || dest\_postcode AS "Destination Address"

FROM customer c, destination\_address d, photo\_collection p, billing\_address b

WHERE d.dest\_add\_id = p.dest\_add\_id

AND p.add\_id = b.add\_id

AND b.acc\_id = c.acc\_id

ORDER BY last\_name;

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Description automatically generated with medium confidence**Output:**

**Purpose:**

Generate a dynamic report to search for a specific combination id (excluding ‘CN’). This report should display the customer’s account id (Account ID), the order id, all the digitalised photos and the combination number which was searched for.

**SQL statement:**

SELECT o.acc\_id AS "Account ID", o.order\_id, d.photo\_no, o.combination\_no

FROM Orders o, Digitalised\_photo d, Sessions s, Selected\_photo\_combination\_no\_copies sp, Selected\_photo sl, combination c

WHERE o.combination\_no LIKE 'CN%&combination%'

AND o.acc\_id = d.acc\_id

AND d.acc\_id = s.acc\_id

AND o.acc\_id = s.acc\_id

AND d.session\_id = s.session\_id

AND o.selected\_no = sp.selected\_no

AND o.combination\_no = sp.combination\_no

AND sl.selected\_no = o.selected\_no

AND sl.selected\_no = sp.selected\_no

AND c.combination\_no = sp.combination\_no

AND d.photo\_no = sl.photo\_no

ORDER BY s.session\_id DESC;

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Description automatically generated with medium confidence**Output: input = 7883**