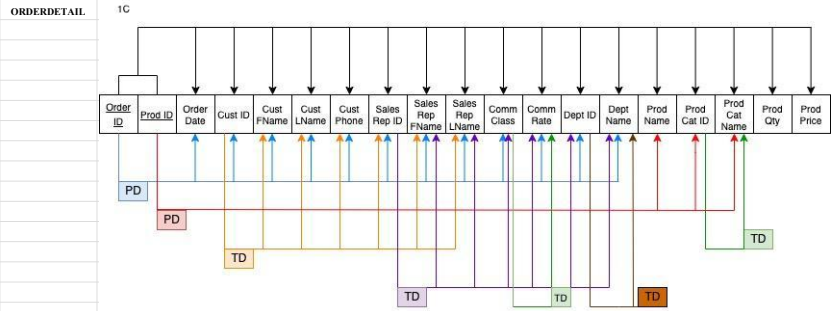1A.

ORDERDETAIL

Order ID	Order Date	Cust ID	Cust FName	Cust LName	Cust Phone	Sales Rep ID	Sales Rep FName	Sales Rep LName	Comm Class	Comm Rate	Dept ID	Dept Name	Prod ID	Prod Name	Prod Cat ID	Prod Cat Name	Prod Qty	Prod Price
100	1/24/22	S100	John	Smith	214-555-1212	10	Alice	Jones	A	0.1	10	Store Sales	121	BD Hammer	1	Hand Tools	2	$8.00
100	1/24/22	S100	John	Smith	214-555-1212	10	Alice	Jones	A	0.1	10	Store Sales	228	Makita Power Drill	2	Power Tools	1	$65.00
100	1/24/22	S100	John	Smith	214-555-1212	10	Alice	Jones	A	0.1	10	Store Sales	480	1# BD Nails	4	Fasteners	2	$3.00
100	1/24/22	S100	John	Smith	214-555-1212	10	Alice	Jones	A	0.1	10	Store Sales	407	1# BD Screws	4	Fasteners	1	$4.25
101	1/25/22	A120	Jane	Adams	817-555-3434	12	Greg	Taylor	B	0.08	14	Corp Sales	610	3M Duct Tape	6	Misc	200	$1.75
101	1/25/22	A120	Jane	Adams	817-555-3434	12	Greg	Taylor	B	0.08	14	Corp Sales	618	3M Masking Tape	6	Misc	100	$1.25
102	1/25/22	J090	Tim	Jones		14	Sara	Day	Z	0	10	Store Sales	380	Acme Yard Stick	3	Measuring Tools	2	$1.25
102	1/25/22	J090	Tim	Jones		14	Sara	Day	Z	0	10	Store Sales	121	BD Hammer	1	Hand Tools	1	$7.00
102	1/25/22	J090	Tim	Jones		14	Sara	Day	Z	0	10	Store Sales	535	Schlage Door Knob	5	Hardware	4	$7.50
103	1/26/22	B200	Ann	Brown	972-555-7979	8	Kay	Price	C	0.05	14	Corp Sales	121	BD Hammer	1	Hand Tools	50	$7.00
103	1/26/22	B200	Ann	Brown	972-555-7979	8	Kay	Price	C	0.05	14	Corp Sales	123	Acme Pry Bar	1	Hand Tools	20	$6.25
104	1/26/22	S100	John	Smith	214-555-1212	10	Alice	Jones	A	0.1	10	Store Sales	229	BD Power Drill	2	Power Tools	1	$50.00
104	1/26/22	S100	John	Smith	214-555-1212	10	Alice	Jones	A	0.1	10	Store Sales	610	3M Duct Tape	6	Misc	200	$1.75
104	1/26/22	S100	John	Smith	214-555-1212	10	Alice	Jones	A	0.1	10	Store Sales	380	Acme Yard Stick	3	Measuring Tools	2	$1.25
104	1/26/22	S100	John	Smith	214-555-1212	10	Alice	Jones	A	0.1	10	Store Sales	535	Schlage Door Knob	5	Hardware	4	$7.50
105	1/26/22	B200	Ann	Brown	972-555-7979	8	Kay	Price	C	0.05	14	Corp Sales	610	3M Duct Tape	6	Misc	200	$1.75
105	1/26/22	B200	Ann	Brown	972-555-7979	8	Kay	Price	C	0.05	14	Corp Sales	123	Acme Pry Bar	1	Hand Tools	40	$5.00
106	1/27/22	G070	Kate	Green	817-555-1034	20	Bob	Jackson	B	0.08	10	Store Sales	124	Acme Hammer	1	Hand Tools	1	$6.50
107	1/27/22	J090	Tim	Jones		14	Sara	Day	Z	0	10	Store Sales	229	BD Power Drill	2	Power Tools	1	$59.00
108	1/27/22	S120	Nicole	Sims		22	Micah	Moore	Z	0	16	Web Sales	235	Makita Power Drill	2	Power Tools	1	$65.00

1B. Table Structure Format

ORDERDETAIL (OrderID, ProdID, OrderDate, CustID, CustFName, CustLName, CustPhone, SalesRepID, SalesRepFName, SalesRepLName, CommClass, CommRate, DeptID, DeptName, ProdName, ProdCatID, ProdCatName, ProdQty, ProdPrice)
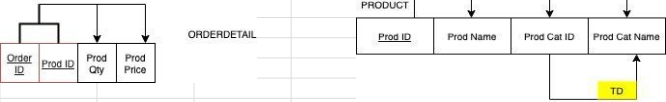
1C.
Dependency Diagram

2A. Key components

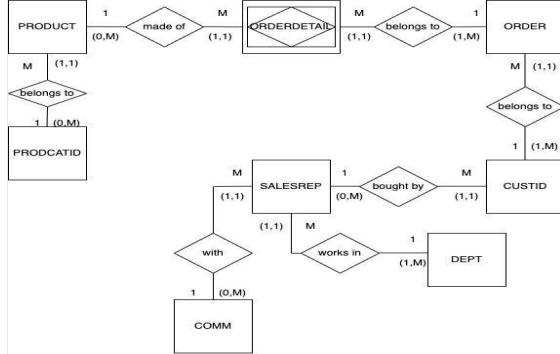OrderID
ProdID
OrderID, ProdID

2B. Table Structure Format

ORDER(OrderID, OrderDate, CustID, CustFNAME, CustLName, CustPhone, SalesRep ID, SalesRepFName, SalesRep LName, CommClass, CommRate, DeptID, DeptName)

PRODUCT(ProdID, ProdName, ProdCatID, ProdCatName)

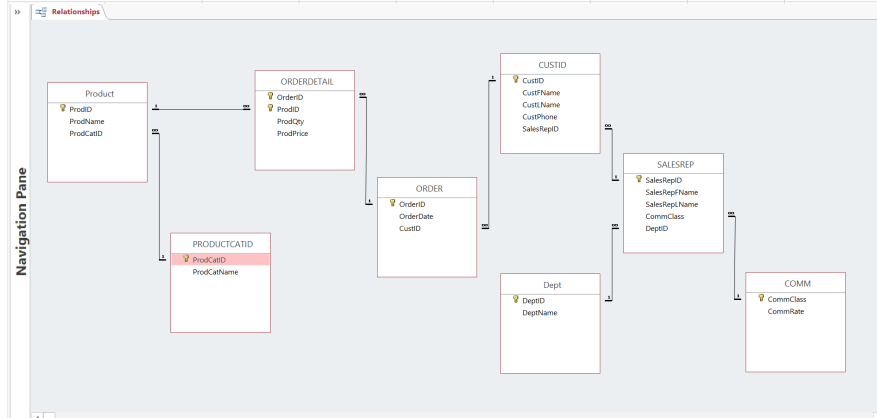ORDERDETAIL(OrderID, ProdID, ProdQty, ProdPrice)

2C. Dependency Diagrams

ORDER

Order ID	Order Date	Cust ID	Cust FName	Cust LName	Cust Phone	Sales Rep ID	Sales Rep FName	Sales Rep LName	Comm Class	Comm Rate	Dept ID	Dept Name

TD

TD

TD   TD

3A. Table Structure Format

ORDERDETAIL(OrderID,ProdID, ProdQty, ProdPrice)

PRODUCT(ProdID, ProdName, ProdCatID)

PRODCATID(ProdCatID, ProdCatName)

ORDER(OrderID, OrderDate, CustID)

CUSTID(CustID,CustFName, CustLName, CustPhone, SalesRepID)

SALESREP(SalesRepID, SalesRepFName, SalesRepLName, CommClass, DeptID)

COMM(CommClass, CommRate)

DEPT(DeptID, DeptName)

3B. Dependency Diagrams

ORDERDETAIL

Order ID	Prod ID	Prod Qty	Prod Price

PRODUCT

ProdID	ProdName	ProdCatD

PRODCATID

ProdCatID	ProdCatName

SALESREP

SalesRepID	Sales Rep FName	Sales Rep LName	CommClass	DeptID

ORDER

OrderID	OrderDate	CustID

COMM

CommClass	CommRate

DEPT

DeptID	DeptName

CUSTID

CustID	Cust FName	Cust LName	CustPhone	SalesRepID

4A. ERD

PRODUCT 1 (0,M) — made of — M (1,1) ORDERDETAIL M (1,1) — belongs to — 1 (1,M) ORDER

PRODUCT M (1,1) — belongs to — 1 (0,M) PRODCATID

ORDER M (1,1) — belongs to — 1 (1,M)

SALESREP M (1,1) — bought by — (0,M) 1 — M (1,1) CUSTID

SALESREP (1,1) — with — 1 (0,M) COMM

SALESREP M — works in — 1 (1,M) DEPT

4B. Relation Schema

Relationships

Product
- ProdID
- ProdName
- ProdCatID

ORDERDETAIL
- OrderID
- ProdID
- ProdQty
- ProdPrice

PRODUCTCATID
- ProdCatID
- ProdCatName

ORDER
- OrderID
- OrderDate
- CustID

CUSTID
- CustID
- CustFName
- CustLName
- CustPhone
- SalesRepID

SALESREP
- SalesRepID
- SalesRepFName
- SalesRepLName
- CommClass
- DeptID

Dept
- DeptID
- DeptName

COMM
- CommClass
- CommRate

5. Business Rules

Each CUSTID is ALWAYS related to ONE SALESREP.
Each SALESREP is SOMETIMES related to ONE or MORE CUSTID.

Each CUSTID is ALWAYS related to ONE or MORE ORDER.
Each ORDER is ALWAYS related to ONE CUSTID.

Each ORDER is ALWAYS related to ONE or MORE ORDERDETAIL.
Each ORDERDETAIL is ALWAYS related to ONE ORDER.

Each ORDERDETAIL is ALWAYS related to ONE PRODUCT.
Each PRODUCT is SOMETIMES related to ONE or MORE ORDERDETAIL.

Each PRODUCT is ALWAYS related to ONE PRODCATID.
Each PRODCATID is SOMETIMES related to ONE or MORE PRODUCT.

Each COMM is SOMETIMES related to ONE or MORE SALESREP.
Each SALESREP is ALWAYS related to ONE COMM.

Each SALESREP is ALWAYS related to ONE DEPT.
Each DEPT is ALWAYS related to ONE or MORE SALESREP.

```
spool'C:\Users\darsh\OneDrive\Desktop\project3_at.txt'

set echo on

--Anup Tiwari

--INSY-3304-001

--Project 3

--Part I

SET LINESIZE 150

--Formatting column heading (varchar and char columns only)

COLUMN DeptName FORMAT a12

COLUMN CommClass FORMAT a12

COLUMN SalesRepFName FORMAT a17

COLUMN SalesRepLName FORMAT a17

COLUMN CustID FORMAT a12

COLUMN "Cust ID" FORMAT a7

COLUMN CustFName FORMAT a14

COLUMN CustLName FORMAT a14

COLUMN ProdName FORMAT a12

COLUMN OrderDate FORMAT a10

COLUMN "Order Date" FORMAT a10

COLUMN "SalesRepFirstName" FORMAT a17

COLUMN "SalesRepLastName" FORMAT a17
```

```sql
-- #4 Add new Customer

INSERT into CUSTOMER_AT

VALUES ('T104','Wes','Thomas','4695551215',22);


-- #5 Add new Product

INSERT into PRODUCT_AT

VALUES (246,'Milwaukee Power Drill',2,179);


-- #6 Add new Order

INSERT INTO ORDER_AT

VALUES ((SELECT MAX (OrderID) + 1) FROM ORDER_AT), '28-JAN-2022', 'T104')




INSERT INTO ORDERDETAIL_AT

VALUES ((SELECT MAX (OrderID) FROM ORDER_AT), 618, 1, (SELECT ProdPrice FROM PRODUCT_AT
WHERE ProdID = 618));




INSERT INTO ORDERDETAIL_AT

VALUES ((SELECT MAX (OrderID) FROM ORDER_AT), 407, 2, (SELECT ProdPrice FROM PRODUCT_AT
WHERE ProdID = 407));




INSERT INTO ORDERDETAIL_AT

VALUES ((SELECT MAX (OrderID) FROM ORDER_AT), 124, 1, (SELECT ProdPrice FROM PRODUCT_AT
WHERE ProdID = 124));
```

```
-- #7

INSERT INTO ORDER_AT

VALUES ((SELECT MAX (OrderID) + 1) FROM ORDER_AT), '29-JAN-2022', 'S100')




INSERT INTO ORDERDETAIL_AT

VALUES ((SELECT MAX (OrderID) FROM ORDER_AT), 535, 3, (SELECT ProdPrice FROM PRODUCT_AT
WHERE ProdID = 535));




INSERT INTO ORDERDETAIL_AT

VALUES ((SELECT MAX (OrderID) FROM ORDER_AT), 246, 1, (SELECT ProdPrice FROM PRODUCT_AT
WHERE ProdID = 246));




INSERT INTO ORDERDETAIL_AT

VALUES ((SELECT MAX (OrderID) FROM ORDER_AT), 610, 2, (SELECT ProdPrice FROM PRODUCT_AT
WHERE ProdID = 610));


-- #8 Change phone number for Customer B200

UPDATE CUSTOMER_AT

SET CustPhone = '8175558918'

WHERE CustID = 'B200';


COMMIT;


--Part II
```

```sql
--1.

SELECT (SalesRepFName || ' ' || SalesRepLName) AS "SalesRep Name", SalesRepID AS "Sales Rep ID",
S.CommClass AS "Commission Class", CommRate AS "Commission Rate"

        FROM SALESREP_AT S, COMMISSION_AT C

                WHERE S.CommClass = C.CommClass

                        ORDER BY SalesRepLName;



--2.


SELECT OrderID AS "ORDER ID", ProdID AS "Product ID", ProdQty AS "Qty",
TO_CHAR(ProdPrice,'$999.99') AS "Price"

        FROM ORDERDETAIL_AT

                ORDER BY OrderID,ProdID;



--3.

SELECT CustID, CustFName AS "CustFirstName", CustLName AS "CustLastName", ('(' ||
SUBSTR(CustPhone,1,3) || ')' || SUBSTR(CustPhone,4,3) || '-' || SUBSTR(CustPhone,7,4)), S.SalesRepID,
SalesRepFName AS "SalesRepFirstName", SalesRepLName AS "SalesRepLastName"

FROM CUSTOMER_AT CU , SALESREP_AT S

WHERE CU.SalesRepID = S.SalesRepID

ORDER BY CustID ASC;




--4.


SELECT DE.DeptID AS "Dept_ID", DE.DeptName AS "Dept_Name", SR.SalesRepID AS "Sales_Rep_ID",

SR.SalesRepFName AS "First_Name", SR.SalesRepLName AS "Last_Name",

SR.CommClass AS "Commission_Class", C.CommRate AS "Commission_Rate"

FROM DEPARTMENT_snb DE, SALESREP_snb SR, COMMISSION_snb C
```

```sql
WHERE C.CommClass = SR.CommClass AND

DE.DeptID = SR.DeptID AND

(DE.DeptID, CommRate) IN

(SELECT DeptID, MAX(CommRate)

 FROM SALESREP_snb

 GROUP BY DeptID);
```

--5.

```sql
SELECT OD.ProdID AS "Product_ID", PR.ProdName AS "Product_Name", PR.ProdCatID AS "Category",

 TO_CHAR(PR.ProdPrice, '$999.99' ) AS "Price"

  FROM PRODUCT_AT PR, ORDER_AT O, ORDERDETAIL_AT OD

   WHERE PR.ProdID = OD.ProdID AND

        O.OrderID = OD.OrderID AND

        O.OrderID = 100 AND

        PR.ProdPrice = (SELECT MAX(ProdPrice)

          FROM ORDERDETAIL_AT OD

           WHERE OrderID = 100);
```

--6.

```sql
SELECT DeptName AS "Dept_Name", COUNT(SalesRepID) AS "Sales_Rep_Count"

FROM DEPARTMENT_AT, SALESREP_AT

        GROUP BY DeptName

        ORDER BY "Sales_Rep_Count" ASC;
```

--7.

```sql
 SELECT SalesRepID AS "Sales_Rep_ID", SalesRepFName AS "First_Name", SalesRepLName AS
"Last_Name", (CommRate*100) || '%' AS "Commission_Rate"

FROM SALESREP_AT S, COMMISSION_AT C

WHERE S.CommClass = C.CommClass AND

(SalesRepID) IN

(SELECT SalesRepID FROM SALESREP_AT S, COMMISSION_AT C WHERE S.CommClass = C.CommClass
AND CommRate <= .05 AND CommRate <> 0 GROUP BY SalesRepID)

 ORDER BY CommRate DESC;
```

--8.

```sql
SELECT O.OrderID, TO_CHAR(O.OrderDate, 'mm/dd/yy') AS "OrderDate", C.CustFName, C.CustLName,
S.SalesRepID, S.SalesRepFName, S.SalesRepLName

FROM ORDER_AT O, CUSTOMER_AT C, SALESREP_AT S

WHERE O.CustID = C.CustID AND

C.SalesRepID = S.SalesRepID

ORDER BY OrderID;
```

--9.

```sql
 SELECT O.OrderID, P.ProdID, P.ProdName, P.ProdCatID AS "CatID",

 O.ProdPrice AS "Price", O.ProdQty AS "Qty", (O.ProdPrice*O.ProdQty) AS "ExtPrice"

 FROM ORDERDETAIL_AT O, PRODUCT_AT P

 WHERE O.ProdID = P.ProdID AND

 OrderID = 104

 ORDER BY "ExtPrice";
```

--10.

```sql
SELECT D.DeptID AS "DeptID", DeptName AS "DeptName", COUNT(SalesRepID) AS "SalesRepCount",
(AVG(CommRate)*100) || '%' AS "AvgCommRate"

FROM DEPARTMENT_AT D, COMMISSION_AT C, SALESREP_AT S

WHERE D.DeptID = S.DeptID AND

C.CommClass = S.CommClass

GROUP BY D.DeptID, DeptName

ORDER BY "AvgCommRate" ASC;


--11.

SELECT SalesRepID, SalesRepFName, SalesRepLName,DeptName,C.CommClass,CommRate

FROM SALESREP_AT S, COMMISSION_AT C,DEPARTMENT_AT

WHERE C.CommClass = S.CommClass

AND CommRate > 0

ORDER BY S.SalesRepID;



--12.

SELECT SalesRepID,(SalesRepFName || ' ' || SalesRepLName) AS "SalesRep_Name",D.DeptID, DeptName

FROM SALESREP_AT S, DEPARTMENT_AT D

WHERE S.DeptID = D.DeptID AND CommClass ='A'

ORDER BY D.DeptID, SalesRepID;


--13.

SELECT OrderID AS "Order_ID", TO_CHAR(SUM(ProdPrice * ProdQty), '$999.99') AS "Order_Total"

FROM ORDERDETAIL_AT O

WHERE OrderID = 104

GROUP BY OrderID;
```

--14.

SELECT TO_CHAR((SUM(ProdPrice)/COUNT(ProdID)), '$999.99') AS "Avg_Price"

FROM ORDERDETAIL_AT;

--15.

SELECT P.ProdID AS "ProductID", P.ProdName AS "Name", TO_CHAR(P.ProdPrice, '$999.99') AS "Price"

FROM PRODUCT_At P, ORDERDETAIL_AT O

WHERE P.ProdID = O.ProdID

GROUP BY P.ProdID, P.ProdName, P.ProdPrice

HAVING COUNT(O.OrderID) = (

SELECT MAX(ProdCount) FROM (

SELECT COUNT(OrderID) AS ProdCount, ProdID

FROM ORDERDETAIL_AT

GROUP BY ProdID));

--16.

SELECT ProdCatID AS "Cat_ID", ProdID AS "Prod_ID", ProdName AS "Prod_Name", TO_CHAR(ProdPrice, '$999.99') AS " Price"

FROM PRODUCT_AT

WHERE (ProdCatID, ProdPrice) IN

(SELECT ProdCatID, MIN(ProdPrice)

FROM PRODUCT_AT

GROUP BY ProdCatID);

--17.

SELECT ProdID, ProdName, ProdCatName, TO_CHAR(ProdPrice, '$999.99') AS "ProdPrice"

```sql
FROM PRODUCT_AT P, PRODCAT_AT PC

WHERE P.ProdCatID = PC.ProdCatID AND

ProdPrice > (SELECT AVG(ProdPrice) FROM PRODUCT_AT);
```

--18.

```sql
SELECT OrderID AS "Order ID", TO_CHAR(OrderDate, 'mm-dd-yyyy') AS "Order Date", C.CustID AS "Cust
ID", (CustFName || ' ' || CustLName) AS "Name", CustPhone AS "Phone"

FROM CUSTOMER_AT C, ORDER_AT O

WHERE C.CustID = O.CustID AND

OrderDate <= DATE '2022-01-26'

ORDER BY OrderDate, C.CustID;
```

--19.

```sql
SELECT CustID, CustFName AS "FirstName", CustLName AS "LastName"

FROM CUSTOMER_AT

WHERE CustFName LIKE '%A'

ORDER BY CustLName;
```

--20.

```sql
 SELECT  CustID AS "Customer ID" ,(CustFName || ' ' ||  CustLName) AS "Name" ,

SUBSTR(CustPhone,1,3) ||'-'|| SUBSTR(CustPhone,4,3) ||'-'|| SUBSTR(CustPhone,7,4) as "Phone"

FROM  CUSTOMER_AT

WHERE SalesRepID = 12;
```

```
--Turn off Logging
spool off


--Setting echo off
set echo off
```

```
spool'C:\Users\darsh\OneDrive\Desktop\project3_at.txt'

set echo on

--Anup Tiwari

--INSY-3304-001

--Project 3

--Part I

SET LINESIZE 150

--Formatting column heading (varchar and char columns only)

COLUMN DeptName FORMAT a12

COLUMN CommClass FORMAT a12

COLUMN SalesRepFName FORMAT a17

COLUMN SalesRepLName FORMAT a17

COLUMN CustID FORMAT a12

COLUMN "Cust ID" FORMAT a7

COLUMN CustFName FORMAT a14

COLUMN CustLName FORMAT a14

COLUMN ProdName FORMAT a12

COLUMN OrderDate FORMAT a10

COLUMN "Order Date" FORMAT a10

COLUMN "SalesRepFirstName" FORMAT a17

COLUMN "SalesRepLastName" FORMAT a17
```

```sql
-- #4 Add new Customer

INSERT into CUSTOMER_AT

VALUES ('T104','Wes','Thomas','4695551215',22);


-- #5 Add new Product

INSERT into PRODUCT_AT

VALUES (246,'Milwaukee Power Drill',2,179);


-- #6 Add new Order

INSERT INTO ORDER_AT

VALUES ((SELECT MAX (OrderID) + 1) FROM ORDER_AT), '28-JAN-2022', 'T104')




INSERT INTO ORDERDETAIL_AT

VALUES ((SELECT MAX (OrderID) FROM ORDER_AT), 618, 1, (SELECT ProdPrice FROM PRODUCT_AT
WHERE ProdID = 618));




INSERT INTO ORDERDETAIL_AT

VALUES ((SELECT MAX (OrderID) FROM ORDER_AT), 407, 2, (SELECT ProdPrice FROM PRODUCT_AT
WHERE ProdID = 407));




INSERT INTO ORDERDETAIL_AT

VALUES ((SELECT MAX (OrderID) FROM ORDER_AT), 124, 1, (SELECT ProdPrice FROM PRODUCT_AT
WHERE ProdID = 124));
```

```
-- #7

INSERT INTO ORDER_AT

VALUES ((SELECT MAX (OrderID) + 1) FROM ORDER_AT), '29-JAN-2022', 'S100')




INSERT INTO ORDERDETAIL_AT

VALUES ((SELECT MAX (OrderID) FROM ORDER_AT), 535, 3, (SELECT ProdPrice FROM PRODUCT_AT
WHERE ProdID = 535));




INSERT INTO ORDERDETAIL_AT

VALUES ((SELECT MAX (OrderID) FROM ORDER_AT), 246, 1, (SELECT ProdPrice FROM PRODUCT_AT
WHERE ProdID = 246));




INSERT INTO ORDERDETAIL_AT

VALUES ((SELECT MAX (OrderID) FROM ORDER_AT), 610, 2, (SELECT ProdPrice FROM PRODUCT_AT
WHERE ProdID = 610));


-- #8 Change phone number for Customer B200

UPDATE CUSTOMER_AT

SET CustPhone = '8175558918'

WHERE CustID = 'B200';


COMMIT;


--Part II
```

--1.

```sql
SELECT (SalesRepFName || ' ' || SalesRepLName) AS "SalesRep Name", SalesRepID AS "Sales Rep ID",
S.CommClass AS "Commission Class", CommRate AS "Commission Rate"

        FROM SALESREP_AT S, COMMISSION_AT C

                WHERE S.CommClass = C.CommClass

                        ORDER BY SalesRepLName;
```

--2.

```sql
SELECT OrderID AS "ORDER ID", ProdID AS "Product ID", ProdQty AS "Qty",
TO_CHAR(ProdPrice,'$999.99') AS "Price"

        FROM ORDERDETAIL_AT

                ORDER BY OrderID,ProdID;
```

--3.

```sql
SELECT CustID, CustFName AS "CustFirstName", CustLName AS "CustLastName", ('(' ||
SUBSTR(CustPhone,1,3) || ')' || SUBSTR(CustPhone,4,3) || '-' || SUBSTR(CustPhone,7,4)), S.SalesRepID,
SalesRepFName AS "SalesRepFirstName", SalesRepLName AS "SalesRepLastName"

FROM CUSTOMER_AT CU , SALESREP_AT S

WHERE CU.SalesRepID = S.SalesRepID

ORDER BY CustID ASC;
```

--4.

```sql
SELECT DE.DeptID AS "Dept_ID", DE.DeptName AS "Dept_Name", SR.SalesRepID AS "Sales_Rep_ID",

SR.SalesRepFName AS "First_Name", SR.SalesRepLName AS "Last_Name",

SR.CommClass AS "Commission_Class", C.CommRate AS "Commission_Rate"

FROM DEPARTMENT_snb DE, SALESREP_snb SR, COMMISSION_snb C
```

WHERE C.CommClass = SR.CommClass AND

DE.DeptID = SR.DeptID AND

(DE.DeptID, CommRate) IN

(SELECT DeptID, MAX(CommRate)

 FROM SALESREP_snb

 GROUP BY DeptID);

--5.

SELECT OD.ProdID AS "Product_ID", PR.ProdName AS "Product_Name", PR.ProdCatID AS "Category",

 TO_CHAR(PR.ProdPrice, '$999.99') AS "Price"

  FROM PRODUCT_AT PR, ORDER_AT O, ORDERDETAIL_AT OD

   WHERE PR.ProdID = OD.ProdID AND

        O.OrderID = OD.OrderID AND

        O.OrderID = 100 AND

        PR.ProdPrice = (SELECT MAX(ProdPrice)

          FROM ORDERDETAIL_AT OD

          WHERE OrderID = 100);

--6.

SELECT DeptName AS "Dept_Name", COUNT(SalesRepID) AS "Sales_Rep_Count"

FROM DEPARTMENT_AT, SALESREP_AT

        GROUP BY DeptName

        ORDER BY "Sales_Rep_Count" ASC;

--7.

```sql
 SELECT SalesRepID AS "Sales_Rep_ID", SalesRepFName AS "First_Name", SalesRepLName AS
"Last_Name", (CommRate*100) || '%' AS "Commission_Rate"

FROM SALESREP_AT S, COMMISSION_AT C

WHERE S.CommClass = C.CommClass AND

(SalesRepID) IN

(SELECT SalesRepID FROM SALESREP_AT S, COMMISSION_AT C WHERE S.CommClass = C.CommClass
AND CommRate <= .05 AND CommRate <> 0 GROUP BY SalesRepID)

 ORDER BY CommRate DESC;
```

--8.

```sql
SELECT O.OrderID, TO_CHAR(O.OrderDate, 'mm/dd/yy') AS "OrderDate", C.CustFName, C.CustLName,
S.SalesRepID, S.SalesRepFName, S.SalesRepLName

FROM ORDER_AT O, CUSTOMER_AT C, SALESREP_AT S

WHERE O.CustID = C.CustID AND

C.SalesRepID = S.SalesRepID

ORDER BY OrderID;
```

--9.

```sql
 SELECT O.OrderID, P.ProdID, P.ProdName, P.ProdCatID AS "CatID",

 O.ProdPrice AS "Price", O.ProdQty AS "Qty", (O.ProdPrice*O.ProdQty) AS "ExtPrice"

 FROM ORDERDETAIL_AT O, PRODUCT_AT P

 WHERE O.ProdID = P.ProdID AND

 OrderID = 104

 ORDER BY "ExtPrice";
```

--10.

```sql
SELECT D.DeptID AS "DeptID", DeptName AS "DeptName", COUNT(SalesRepID) AS "SalesRepCount",
(AVG(CommRate)*100) || '%' AS "AvgCommRate"

FROM DEPARTMENT_AT D, COMMISSION_AT C, SALESREP_AT S

WHERE D.DeptID = S.DeptID AND

C.CommClass = S.CommClass

GROUP BY D.DeptID, DeptName

ORDER BY "AvgCommRate" ASC;


--11.
SELECT SalesRepID, SalesRepFName, SalesRepLName,DeptName,C.CommClass,CommRate

FROM SALESREP_AT S, COMMISSION_AT C,DEPARTMENT_AT

WHERE C.CommClass = S.CommClass

AND CommRate > 0

ORDER BY S.SalesRepID;



--12.
SELECT SalesRepID,(SalesRepFName || ' ' || SalesRepLName) AS "SalesRep_Name",D.DeptID, DeptName

FROM SALESREP_AT S, DEPARTMENT_AT D

WHERE S.DeptID = D.DeptID AND CommClass ='A'

ORDER BY D.DeptID, SalesRepID;


--13.

SELECT OrderID AS "Order_ID", TO_CHAR(SUM(ProdPrice * ProdQty), '$999.99') AS "Order_Total"

FROM ORDERDETAIL_AT O

WHERE OrderID = 104

GROUP BY OrderID;
```

--14.

SELECT TO_CHAR((SUM(ProdPrice)/COUNT(ProdID)), '$999.99') AS "Avg_Price"

FROM ORDERDETAIL_AT;

--15.

SELECT P.ProdID AS "ProductID", P.ProdName AS "Name", TO_CHAR(P.ProdPrice, '$999.99') AS "Price"

FROM PRODUCT_At P, ORDERDETAIL_AT O

WHERE P.ProdID = O.ProdID

GROUP BY P.ProdID, P.ProdName, P.ProdPrice

HAVING COUNT(O.OrderID) = (

SELECT MAX(ProdCount) FROM (

SELECT COUNT(OrderID) AS ProdCount, ProdID

FROM ORDERDETAIL_AT

GROUP BY ProdID));

--16.

SELECT ProdCatID AS "Cat_ID", ProdID AS "Prod_ID", ProdName AS "Prod_Name", TO_CHAR(ProdPrice, '$999.99') AS " Price"

FROM PRODUCT_AT

WHERE (ProdCatID, ProdPrice) IN

(SELECT ProdCatID, MIN(ProdPrice)

FROM PRODUCT_AT

GROUP BY ProdCatID);

--17.

SELECT ProdID, ProdName, ProdCatName, TO_CHAR(ProdPrice, '$999.99') AS "ProdPrice"

FROM PRODUCT_AT P, PRODCAT_AT PC

WHERE P.ProdCatID = PC.ProdCatID AND

ProdPrice > (SELECT AVG(ProdPrice) FROM PRODUCT_AT);

--18.

SELECT OrderID AS "Order ID", TO_CHAR(OrderDate, 'mm-dd-yyyy') AS "Order Date", C.CustID AS "Cust ID", (CustFName || ' ' || CustLName) AS "Name", CustPhone AS "Phone"

FROM CUSTOMER_AT C, ORDER_AT O

WHERE C.CustID = O.CustID AND

OrderDate <= DATE '2022-01-26'

ORDER BY OrderDate, C.CustID;

--19.

SELECT CustID, CustFName AS "FirstName", CustLName AS "LastName"

FROM CUSTOMER_AT

WHERE CustFName LIKE '%A'

ORDER BY CustLName;

--20.

 SELECT CustID AS "Customer ID" ,(CustFName || ' ' || CustLName) AS "Name" ,

SUBSTR(CustPhone,1,3) ||'-'|| SUBSTR(CustPhone,4,3) ||'-'|| SUBSTR(CustPhone,7,4) as "Phone"

FROM CUSTOMER_AT

WHERE SalesRepID = 12;

```
--Turn off Logging
spool off


--Setting echo off
set echo off
```

```
SQL>
SQL> --Anup Tiwari
SQL> --INSY-3304-001
SQL> --Project 3
SQL>
SQL> --Part I
SQL>
SQL> SET LINESIZE 150
SQL>
SQL> --Formatting column heading (varchar and char columns only)
SQL>
SQL> COLUMN DeptName FORMAT a12
SQL> COLUMN CommClass FORMAT a12
SQL> COLUMN SalesRepFName FORMAT a17
SQL> COLUMN SalesRepLName FORMAT a17
SQL> COLUMN CustID FORMAT a12
SQL> COLUMN "Cust ID" FORMAT a7
SQL> COLUMN CustFName FORMAT a14
SQL> COLUMN CustLName FORMAT a14
SQL> COLUMN ProdName FORMAT a12
SQL> COLUMN OrderDate FORMAT a10
SQL> COLUMN "Order Date" FORMAT a10
SQL> COLUMN "SalesRepFirstName" FORMAT a17
SQL> COLUMN "SalesRepLastName" FORMAT a17
SQL>
SQL>
SQL> -- #4 Add new Customer
SQL> INSERT into CUSTOMER_AT
  2  VALUES ('T104','Wes','Thomas','4695551215',22);

1 row created.

SQL>
SQL> -- #5 Add new Product
SQL> INSERT into PRODUCT_AT
  2  VALUES (246,'Milwaukee Power Drill',2,179);

1 row created.

SQL>
SQL> -- #6 Add new Order
SQL> INSERT INTO ORDER_AT
  2  VALUES ((SELECT MAX (OrderID) + 1) FROM ORDER_AT), '28-JAN-2022', 'T104')
  3
SQL>
SQL>
SQL> INSERT INTO ORDERDETAIL_AT
  2  VALUES ((SELECT MAX (OrderID) FROM ORDER_AT), 618, 1, (SELECT ProdPrice FROM
PRODUCT_AT WHERE ProdID = 618));
```

```
1 row created.

SQL>
SQL>
SQL>
SQL> INSERT INTO ORDERDETAIL_AT
  2  VALUES ((SELECT MAX (OrderID) FROM ORDER_AT), 407, 2, (SELECT ProdPrice FROM
PRODUCT_AT WHERE ProdID = 407));

1 row created.

SQL>
SQL>
SQL>
SQL> INSERT INTO ORDERDETAIL_AT
  2  VALUES ((SELECT MAX (OrderID) FROM ORDER_AT), 124, 1, (SELECT ProdPrice FROM
PRODUCT_AT WHERE ProdID = 124));

1 row created.

SQL>
SQL> -- #7
SQL> INSERT INTO ORDER_AT
  2  VALUES ((SELECT MAX (OrderID) + 1) FROM ORDER_AT), '29-JAN-2022', 'S100')
  3
SQL>
SQL>
SQL> INSERT INTO ORDERDETAIL_AT
  2  VALUES ((SELECT MAX (OrderID) FROM ORDER_AT), 535, 3, (SELECT ProdPrice FROM
PRODUCT_AT WHERE ProdID = 535));

1 row created.

SQL>
SQL>
SQL>
SQL> INSERT INTO ORDERDETAIL_AT
  2  VALUES ((SELECT MAX (OrderID) FROM ORDER_AT), 246, 1, (SELECT ProdPrice FROM
PRODUCT_AT WHERE ProdID = 246));

1 row created.

SQL>
SQL>
SQL>
SQL> INSERT INTO ORDERDETAIL_AT
  2  VALUES ((SELECT MAX (OrderID) FROM ORDER_AT), 610, 2, (SELECT ProdPrice FROM
PRODUCT_AT WHERE ProdID = 610));

1 row created.
```

```
SQL>
SQL> -- #8 Change phone number for Customer B200
SQL> UPDATE CUSTOMER_AT
  2  SET CustPhone = '8175558918'
  3  WHERE CustID = 'B200';

1 row updated.

SQL>
SQL> COMMIT;

Commit complete.

SQL>
SQL> --Part II
SQL>
SQL> --1.
SQL> SELECT (SalesRepFName || ' ' || SalesRepLName) AS "SalesRep Name", SalesRepID
AS "Sales Rep ID", S.CommClass AS "Commission Class", CommRate AS "Commission Rate"
  2          FROM SALESREP_AT S, COMMISSION_AT C
  3              WHERE S.CommClass = C.CommClass
  4                  ORDER BY SalesRepLName;

SalesRep Name                            Sales Rep ID C Commission Rate

---------------------------------------- ------------ - ---------------

Sara Day                                           14 Z               0

Bob Jackson                                        20 B             .08

Alice Jones                                        10 A              .1

Micah Moore                                        22 Z               0

Kay Price                                           8 C             .05

Greg Taylor                                        12 B             .08


6 rows selected.

SQL>
SQL> --2.
SQL>
SQL> SELECT OrderID AS "ORDER ID", ProdID AS "Product ID", ProdQty AS "Qty",
TO_CHAR(ProdPrice,'$999.99') AS "Price"
  2          FROM ORDERDETAIL_AT
  3              ORDER BY OrderID,ProdID;
```

ORDER ID	Product ID	Qty	Price
100	121	2	$8.00
100	228	1	$65.00
100	407	1	$4.25
100	480	2	$3.00
101	610	200	$1.75
101	618	100	$1.25
102	121	1	$7.00
102	380	2	$1.25
102	535	4	$7.50
103	121	50	$7.00
103	123	20	$6.25

ORDER ID	Product ID	Qty	Price
104	229	1	$50.00
104	380	2	$1.25
104	535	4	$7.50
104	610	200	$1.75
105	123	40	$5.00
105	610	200	$1.75
106	124	1	$6.50
107	229	1	$59.00
108	235	1	$62.00

```
        108         407         1     $5.25

        108         618         2     $2.15


  ORDER ID Product ID        Qty Price

---------- ---------- ---------- --------

        109         121         1     $8.25

        109         124         1     $6.50

        109         246         1   $179.00

        109         407         2     $4.25

        109         480         1     $3.75

        109         535         3     $7.50

        109         610         2     $1.75

        109         618         1     $1.25


30 rows selected.

SQL>
SQL> --3.
SQL> SELECT CustID, CustFName AS "CustFirstName", CustLName AS "CustLastName", ('('
|| SUBSTR(CustPhone,1,3) || ')' || SUBSTR(CustPhone,4,3) || '-' ||
SUBSTR(CustPhone,7,4)), S.SalesRepID, SalesRepFName AS "SalesRepFirstName",
SalesRepLName AS "SalesRepLastName"
  2  FROM CUSTOMER_AT CU , SALESREP_AT S
  3  WHERE CU.SalesRepID = S.SalesRepID
  4  ORDER BY CustID ASC;

CUSTID        CustFirstName   CustLastName
('('||SUBSTR(CUSTPHONE,1,3)||')'||SUBSTR(CU SALESREPID SalesRepFirstName
SalesRepLastName
------------ --------------- ---------------
-------------------------------------------- ---------- ----------------
----------------
A120          Jane            Adams           (817)555-3434
        12 Greg             Taylor
B200          Ann             Brown           (817)555-8918
         8 Kay              Price
G070          Kate            Green           (817)555-1034
        20 Bob              Jackson
```

```
G119          Amanda         Green          (NUL)L  -
             14 Sara                Day
J090           Tim            Jones          (NUL)L  -
             14 Sara                Day
S100           John           Smith          (214)555-1212
             10 Alice               Jones
S120           Nicole         Sims           (NUL)L  -
             22 Micah               Moore
T104           Wes            Thomas         (469)555-1215
             22 Micah               Moore

8 rows selected.

SQL>
SQL>
SQL> --4.
SQL>
SQL> SELECT DE.DeptID AS "Dept_ID", DE.DeptName AS "Dept_Name", SR.SalesRepID AS
"Sales_Rep_ID",
  2  SR.SalesRepFName AS "First_Name", SR.SalesRepLName AS "Last_Name",
  3  SR.CommClass AS "Commission_Class", C.CommRate AS "Commission_Rate"
  4  FROM DEPARTMENT_snb DE, SALESREP_snb SR, COMMISSION_snb C
  5  WHERE C.CommClass = SR.CommClass AND
  6  DE.DeptID = SR.DeptID AND
  7  (DE.DeptID, CommRate) IN
  8  (SELECT DeptID, MAX(CommRate)
  9   FROM SALESREP_snb
 10   GROUP BY DeptID);
FROM DEPARTMENT_snb DE, SALESREP_snb SR, COMMISSION_snb C
                                                *
ERROR at line 4:
ORA-00942: table or view does not exist


SQL>
SQL> --5.
SQL>
SQL> SELECT OD.ProdID AS "Product_ID", PR.ProdName AS "Product_Name", PR.ProdCatID
AS "Category",
  2    TO_CHAR(PR.ProdPrice, '$999.99' ) AS "Price"
  3     FROM PRODUCT_AT PR, ORDER_AT O, ORDERDETAIL_AT OD
  4     WHERE PR.ProdID = OD.ProdID AND
  5        O.OrderID = OD.OrderID AND
  6        O.OrderID = 100 AND
  7        PR.ProdPrice = (SELECT MAX(ProdPrice)
  8          FROM ORDERDETAIL_AT OD
  9          WHERE OrderID = 100);

Product_ID Product_Name              Category Price
```

```
          ---------- -------------------- ---------- --------

              228 Makita Power Drill              2   $65.00


SQL>
SQL>
SQL> --6.
SQL>
SQL> SELECT DeptName AS "Dept_Name", COUNT(SalesRepID) AS "Sales_Rep_Count"
  2  FROM DEPARTMENT_AT, SALESREP_AT
  3         GROUP BY DeptName
  4         ORDER BY "Sales_Rep_Count" ASC;

Dept_Name        Sales_Rep_Count

--------------- ---------------

Corp Sales                    6

Web Sales                     6

Store Sales                   6


SQL>
SQL> --7.
SQL>
SQL>  SELECT SalesRepID AS "Sales_Rep_ID", SalesRepFName AS "First_Name",
SalesRepLName AS "Last_Name", (CommRate*100) || '%' AS "Commission_Rate"
  2  FROM SALESREP_AT S, COMMISSION_AT C
  3  WHERE S.CommClass = C.CommClass AND
  4  (SalesRepID) IN
  5  (SELECT SalesRepID FROM SALESREP_AT S, COMMISSION_AT C WHERE S.CommClass =
C.CommClass AND CommRate <= .05 AND CommRate <> 0 GROUP BY SalesRepID)
  6   ORDER BY CommRate DESC;

Sales_Rep_ID First_Name           Last_Name            Commission_Rate

------------ -------------------- --------------------
----------------------------------------

           8 Kay                  Price                5%


SQL>
SQL>
SQL> --8.
SQL> SELECT O.OrderID, TO_CHAR(O.OrderDate, 'mm/dd/yy') AS "OrderDate", C.CustFName,
C.CustLName, S.SalesRepID, S.SalesRepFName, S.SalesRepLName
```

```
  2   FROM ORDER_AT O, CUSTOMER_AT C, SALESREP_AT S
  3   WHERE O.CustID = C.CustID AND
  4   C.SalesRepID = S.SalesRepID
  5   ORDER BY OrderID;

   ORDERID OrderDate  CUSTFNAME      CUSTLNAME      SALESREPID SALESREPFNAME
SALESREPLNAME
---------- ---------- -------------- -------------- ---------- ----------------
-----------------
       100 01/24/22   John           Smith                  10 Alice
Jones
       101 01/25/22   Jane           Adams                  12 Greg
Taylor
       102 01/25/22   Tim            Jones                  14 Sara           Day

       103 01/26/22   Ann            Brown                   8 Kay
Price
       104 01/26/22   John           Smith                  10 Alice
Jones
       105 01/26/22   Ann            Brown                   8 Kay
Price
       106 01/27/22   Kate           Green                  20 Bob
Jackson
       107 01/27/22   Tim            Jones                  14 Sara           Day

       108 01/28/22   Nicole         Sims                   22 Micah
Moore
       109 01/28/22   Amanda         Green                  14 Sara           Day


10 rows selected.

SQL>
SQL> --9.
SQL>
SQL>  SELECT O.OrderID, P.ProdID, P.ProdName, P.ProdCatID AS "CatID",
  2    O.ProdPrice AS "Price", O.ProdQty AS "Qty", (O.ProdPrice*O.ProdQty) AS
"ExtPrice"
  3    FROM ORDERDETAIL_AT O, PRODUCT_AT P
  4    WHERE O.ProdID = P.ProdID AND
  5    OrderID = 104
  6    ORDER BY "ExtPrice";

   ORDERID     PRODID PRODNAME          CatID      Price        Qty   ExtPrice

---------- ---------- ------------- ---------- ---------- ---------- ----------

       104        380 Acme Yard St           3       1.25          2        2.5

                  ick
```

```
         104      535 Schlage Door      5       7.5        4        30
                      Knob


         104      229 BD Power Dri      2        50        1        50
                      ll


         104      610 3M Duct Tape      6       1.75      200       350

SQL>
SQL> --10.
SQL>
SQL> SELECT D.DeptID AS "DeptID", DeptName AS "DeptName", COUNT(SalesRepID) AS
"SalesRepCount", (AVG(CommRate)*100) || '%' AS "AvgCommRate"
  2  FROM DEPARTMENT_AT D, COMMISSION_AT C, SALESREP_AT S
  3  WHERE D.DeptID = S.DeptID AND
  4  C.CommClass = S.CommClass
  5  GROUP BY D.DeptID, DeptName
  6  ORDER BY "AvgCommRate" ASC;

   DeptID DeptName      SalesRepCount AvgCommRate

---------- ------------ ------------- ----------------------------------------

       16 Web Sales           1 0%

       10 Store Sales         3 6%

       14 Corp Sales          2 6.5%


SQL>
SQL> --11.
SQL> SELECT SalesRepID, SalesRepFName, SalesRepLName,DeptName,C.CommClass,CommRate
  2  FROM SALESREP_AT S, COMMISSION_AT C,DEPARTMENT_AT
  3  WHERE C.CommClass = S.CommClass
  4  AND CommRate > 0
  5  ORDER BY S.SalesRepID;

SALESREPID SALESREPFNAME      SALESREPLNAME     DEPTNAME     COMMCLASS     COMMRATE
```

```
---------- ---------------- ---------------- ----------- ------------ ----------
         8 Kay              Price            Corp Sales  C                   .05

         8 Kay              Price            Store Sales C                   .05

         8 Kay              Price            Web Sales   C                   .05

        10 Alice            Jones            Web Sales   A                    .1

        10 Alice            Jones            Store Sales A                    .1

        10 Alice            Jones            Corp Sales  A                    .1

        12 Greg             Taylor           Corp Sales  B                   .08

        12 Greg             Taylor           Store Sales B                   .08

        12 Greg             Taylor           Web Sales   B                   .08

        20 Bob              Jackson          Store Sales B                   .08

        20 Bob              Jackson          Corp Sales  B                   .08


SALESREPID SALESREPFNAME    SALESREPLNAME    DEPTNAME    COMMCLASS     COMMRATE

---------- ---------------- ---------------- ----------- ------------ ----------
        20 Bob              Jackson          Web Sales   B                   .08


12 rows selected.

SQL>
SQL>
SQL> --12.
SQL> SELECT SalesRepID,(SalesRepFName || ' ' || SalesRepLName) AS
"SalesRep_Name",D.DeptID, DeptName
  2  FROM SALESREP_AT S, DEPARTMENT_AT D
  3  WHERE S.DeptID = D.DeptID AND CommClass ='A'
  4  ORDER BY D.DeptID, SalesRepID;

SALESREPID SalesRep_Name                                DEPTID DEPTNAME

---------- -------------------------------------------- ---------- ------------
        10 Alice Jones                                       10 Store Sales
```

```
SQL>
SQL> --13.
SQL>
SQL> SELECT OrderID AS "Order_ID", TO_CHAR(SUM(ProdPrice * ProdQty), '$999.99') AS
"Order_Total"
  2  FROM ORDERDETAIL_AT O
  3  WHERE OrderID = 104
  4  GROUP BY OrderID;

  Order_ID Order_To

---------- --------

       104 $432.50


SQL>
SQL> --14.
SQL> SELECT TO_CHAR((SUM(ProdPrice)/COUNT(ProdID)), '$999.99') AS "Avg_Price"
  2  FROM ORDERDETAIL_AT;

Avg_Pric

--------

  $17.56


SQL>
SQL> --15.
SQL> SELECT P.ProdID AS "ProductID", P.ProdName AS "Name", TO_CHAR(P.ProdPrice,
'$999.99') AS "Price"
  2  FROM PRODUCT_At P, ORDERDETAIL_AT O
  3  WHERE P.ProdID = O.ProdID
  4  GROUP BY P.ProdID, P.ProdName, P.ProdPrice
  5  HAVING COUNT(O.OrderID) = (
  6  SELECT MAX(ProdCount) FROM (
  7  SELECT COUNT(OrderID) AS ProdCount, ProdID
  8  FROM ORDERDETAIL_AT
  9  GROUP BY ProdID));

 ProductID Name                    Price

---------- --------------------- --------

       121 BD Hammer               $8.00

       610 3M Duct Tape            $1.75
```

```
SQL>
SQL>
SQL>
SQL> --16.
SQL>
SQL> SELECT ProdCatID AS "Cat_ID", ProdID AS "Prod_ID", ProdName AS "Prod_Name",
TO_CHAR(ProdPrice, '$999.99') AS " Price"
  2  FROM PRODUCT_AT
  3  WHERE (ProdCatID, ProdPrice) IN
  4  (SELECT ProdCatID, MIN(ProdPrice)
  5  FROM PRODUCT_AT
  6  GROUP BY ProdCatID);

   Cat_ID    Prod_ID Prod_Name                 Price

---------- ---------- --------------------- --------

        1        123 Acme Pry Bar            $5.00

        2        229 BD Power Drill         $50.00

        3        380 Acme Yard Stick         $1.25

        4        480 1# BD Screws            $3.00

        5        535 Schlage Door Knob       $7.50

        6        618 3M Masking Tape         $1.25


6 rows selected.

SQL>
SQL> --17.
SQL> SELECT ProdID, ProdName, ProdCatName, TO_CHAR(ProdPrice, '$999.99') AS
"ProdPrice"
  2  FROM PRODUCT_AT P, PRODCAT_AT PC
  3  WHERE P.ProdCatID = PC.ProdCatID AND
  4  ProdPrice > (SELECT AVG(ProdPrice) FROM PRODUCT_AT);

   PRODID PRODNAME     PRODCATNAME              ProdPric

---------- ------------ ------------------------ --------

      228 Makita Power Power Tools             $65.00

          Drill
```

```
    229 BD Power Dri  Power Tools                    $50.00

        ll


    235 Makita Power  Power Tools                    $65.00

         Drill


    246 Milwaukee Po  Power Tools                   $179.00

        wer Drill


    PRODID PRODNAME     PRODCATNAME                  ProdPric

---------- ------------ ------------------------- --------



SQL>
SQL>
SQL>
SQL> --18.
SQL>
SQL> SELECT OrderID AS "Order ID", TO_CHAR(OrderDate, 'mm-dd-yyyy') AS "Order Date",
C.CustID AS "Cust ID", (CustFName || ' ' || CustLName) AS "Name", CustPhone AS
"Phone"
  2  FROM CUSTOMER_AT C, ORDER_AT O
  3  WHERE C.CustID = O.CustID AND
  4  OrderDate <= DATE '2022-01-26'
  5  ORDER BY OrderDate, C.CustID;

  Order ID Order Date Cust ID Name                              Phone

---------- ---------- ------- ------------------------------ ----------

       100 01-24-2022 S100    John Smith                     2145551212

       101 01-25-2022 A120    Jane Adams                     8175553434

       102 01-25-2022 J090    Tim Jones                      NULL

       105 01-26-2022 B200    Ann Brown                      8175558918

       103 01-26-2022 B200    Ann Brown                      8175558918
```

```
      104 01-26-2022 S100     John Smith                          2145551212


6 rows selected.

SQL>
SQL>
SQL> --19.
SQL> SELECT CustID, CustFName AS "FirstName", CustLName AS "LastName"
  2  FROM CUSTOMER_AT
  3  WHERE CustFName LIKE '%A'
  4  ORDER BY CustLName;

no rows selected

SQL>
SQL> --20.
SQL>  SELECT  CustID AS "Customer ID" ,(CustFName || ' ' ||  CustLName) AS "Name" ,
  2  SUBSTR(CustPhone,1,3) ||'-'|| SUBSTR(CustPhone,4,3) ||'-'||
SUBSTR(CustPhone,7,4) as "Phone"
  3  FROM  CUSTOMER_AT
  4  WHERE SalesRepID = 12;

Custo Name                             Phone

----- ----------------------------- -----------------------------------------

A120  Jane Adams                      817-555-3434


SQL>
SQL>
SQL>
SQL>
SQL>
SQL> --Turn off Logging
SQL> spool off
```