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| NITWlogoFeb2012 | **NATIONAL INSTITUTE OF TECHNOLOGY WARANGAL**  **DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING**  **MCA, IV Semester**  **KE Lab Assignment-05** |

**Date :10/03/2022**

-- Que 1)

/\* ITEM TABLE \*/

create table item\_dimension( item\_key Number(5), item\_name varchar(10), brand varchar(10), type varchar(10), supplier\_type varchar(10));

/\* TIME TABLE \*/

create table timedimension ( time\_key Number(5), day Number(5), day\_of\_the\_week Varchar(10), month Number(5), quarter Number(5), year Number(5));

/\* BRANCH TABLE \*/

create table branch\_dimension (branch\_key Number(5),branch\_name varchar(20),branch\_type varchar(20));

/\* LOCATION TABLE \*/

create table location\_dimension( location\_key Number(5), street varchar(10), city varchar(10), province varchar(10), country varchar(10));

/\* SALES TABLE \*/

create table sales\_fact(id Number(5), dollor\_sold number(7,2), units\_sold Number(5), time\_key Number(5), item\_key Number(5), location\_key Number(5), branch\_key Number(5));

-- ADD PRIMANY KEY TO time table

alter table timedimension add constraint pk\_timedimension primary key(time\_key);

-- ADD PRIMANY KEY TO branch table

alter table branch\_dimension add constraint pk\_branch\_dimension primary key(branch\_key);

-- ADD PRIMANY KEY TO item table

alter table item\_dimension add constraint pk\_item\_dimension primary key(item\_key);

-- ADD PRIMANY KEY TO location table

alter table location\_dimension add constraint pk\_location\_dimension primary key(location\_key);

desc sales\_fact;

desc timedimension;

desc branch\_dimension;

desc location\_dimension;

desc item\_dimension;

-- Connecting all tables to sales table using Foreign Keys

alter table sales\_fact add constraint fk\_timedimension\_sales\_fact foreign key (time\_key) references timedimension(time\_key);

alter table sales\_fact add constraint fk\_branch\_dimension\_sales\_fact foreign key (branch\_key) references branch\_dimension(branch\_key);

alter table sales\_fact add constraint fk\_item\_dimension\_sales\_fact foreign key (item\_key) references item\_dimension(item\_key);

alter table sales\_fact add constraint fk\_location\_dimension\_sales\_fact foreign key(location\_key) references location\_dimension(location\_key);

-- INSERT DATA into location table

insert into location\_dimension values(301,'RAMKRISHNA','PATNA','BIHAR','INDIA');

insert into location\_dimension values(302,'MSDHONI ','RANCHI','JHARKHAND','INDIA');

insert into location\_dimension values(303,'JOYPUR','KHARAK','WEST BENG','INDIA');

insert into location\_dimension values(304,'RAMNAGAR','AYODHYA','UP','INDIA');

insert into location\_dimension values(305,'CHROMPET','CHENNAI','TAMIL NADU','INDIA');

-- INSERT DATA into branch table

insert into branch\_dimension values(401,'IOT','SALES');

insert into branch\_dimension values(402,'ELECTRICAL','SALES');

insert into branch\_dimension values(403,'MECHANICAL','SALES');

insert into branch\_dimension values(404,'EDIBLE','SALES');

insert into branch\_dimension values(405,'ELETRONICS','SALES');

-- INSERT DATA into item table

insert into item\_dimension values(101,'SMART','WIPRO','ELECTRIC','online');

insert into item\_dimension values(102,'LAPTO','DELL','ELECTRIC','shop');

insert into item\_dimension values(103,'DRILL','TATA','MECHANIC','online');

insert into item\_dimension values(104,'NOODL','NESTLE','EDIBLE','online');

insert into item\_dimension values(105,'FAN','USHA','ELECTRO','online');

-- INSERT DATA into time table

insert into timedimension values(201,2,'Monday',5,2,2021);

insert into timedimension values(202,23,'Saturday',9,3,2009);

insert into timedimension values(203,14,'Wednesday',12,4,2010);

insert into timedimension values(204,10,'Monday',12,4,2021);

insert into timedimension values(205,6,'Wednesday',2,1,2010);

-- INSERT DATA into sales table

insert into sales\_fact values(1,1500,41,201,101,301,401);

insert into sales\_fact values(2,1022,42,202,102,302,402);

insert into sales\_fact values(3,1034,43,203,103,303,403);

insert into sales\_fact values(4,1046,44,204,104,304,404);

insert into sales\_fact values(5,1058,45,205,105,305,405);

select \* from item\_dimension;

select \* from timedimension;

select \* from branch\_dimension;

select \* from location\_dimension;

select \* from sales\_fact;

-- RUNNING Queries

-- (A) “Compute the sum of sales, grouping by city and item.”

SELECT

city,

item\_name,

sum(dollor\_sold \* units\_sold) amount

FROM

sales\_fact,location\_dimension,

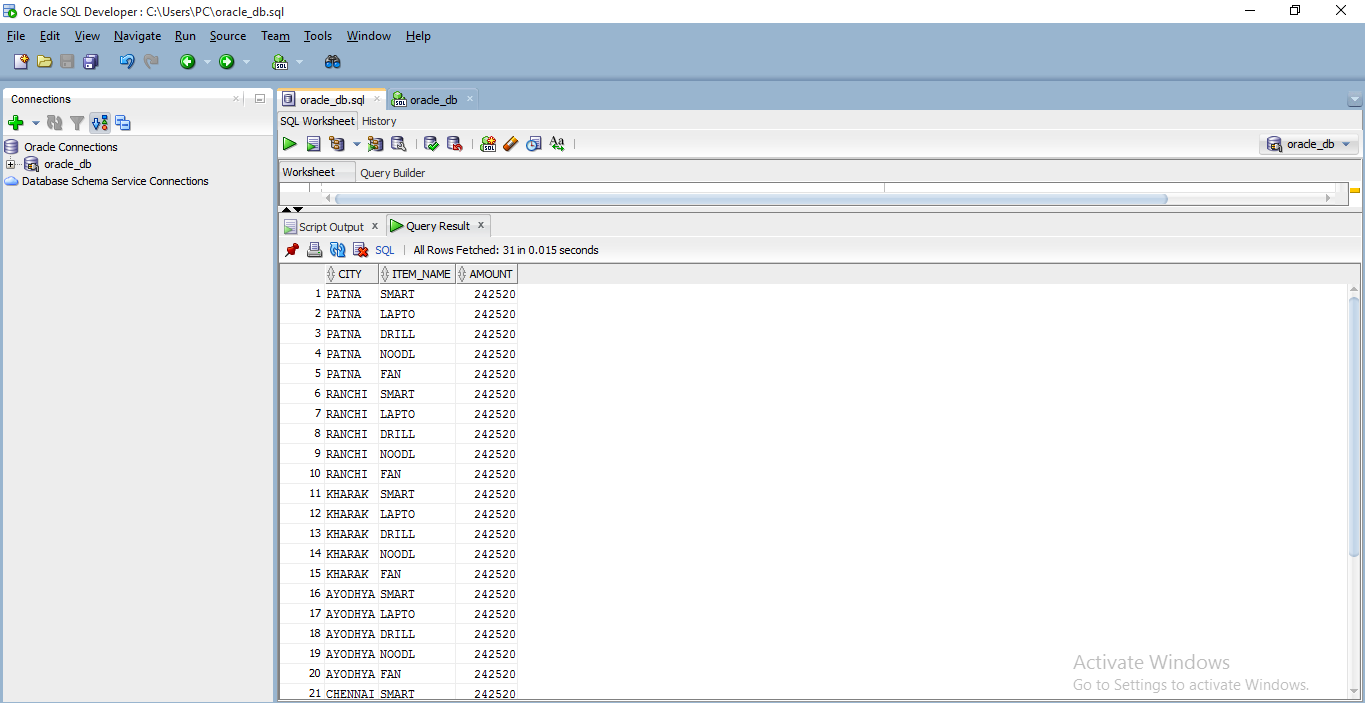
item\_dimension

GROUP BY

ROLLUP(city,

item\_name);

Output🡪



-- (B) “Compute the sum of sales, grouping by city.”

SELECT

city,

sum(dollor\_sold \* units\_sold) amount

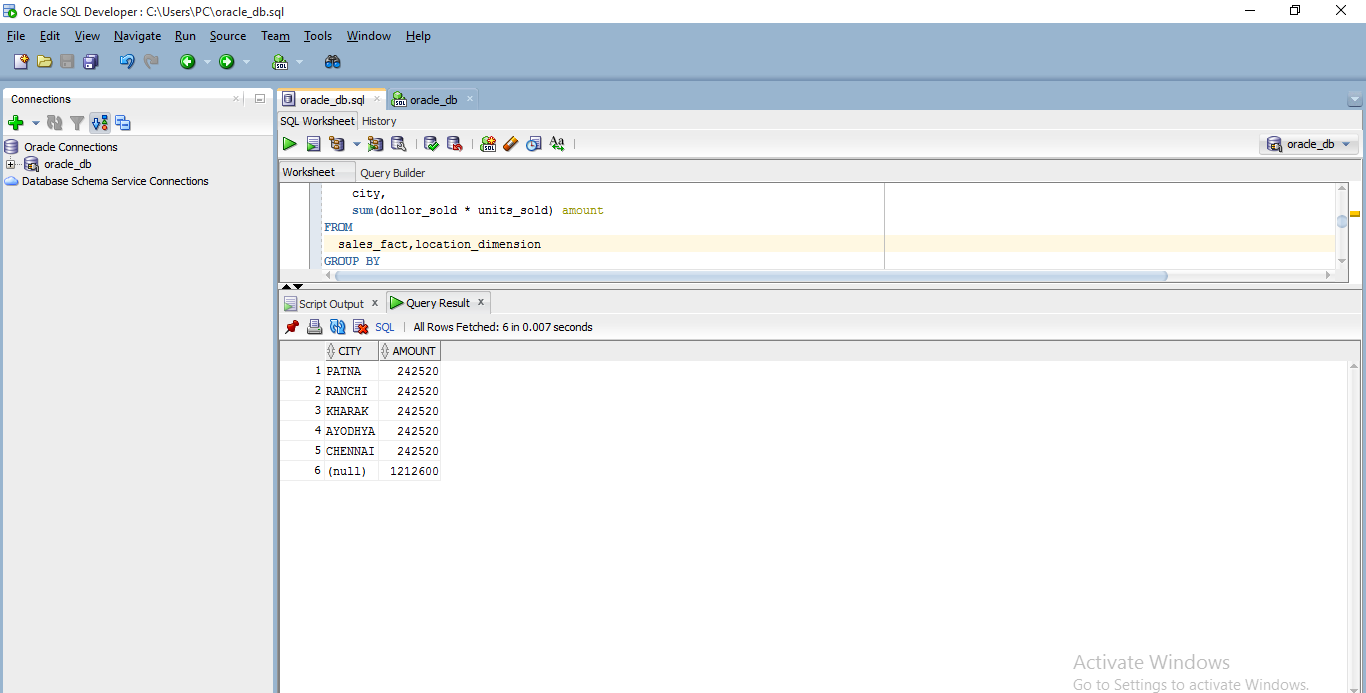
FROM

sales\_fact,location\_dimension

GROUP BY

ROLLUP(city);

Output🡪



-- (C) “Compute the sum of sales, grouping by item.”

SELECT

item\_name,

sum(dollor\_sold \* units\_sold) amount

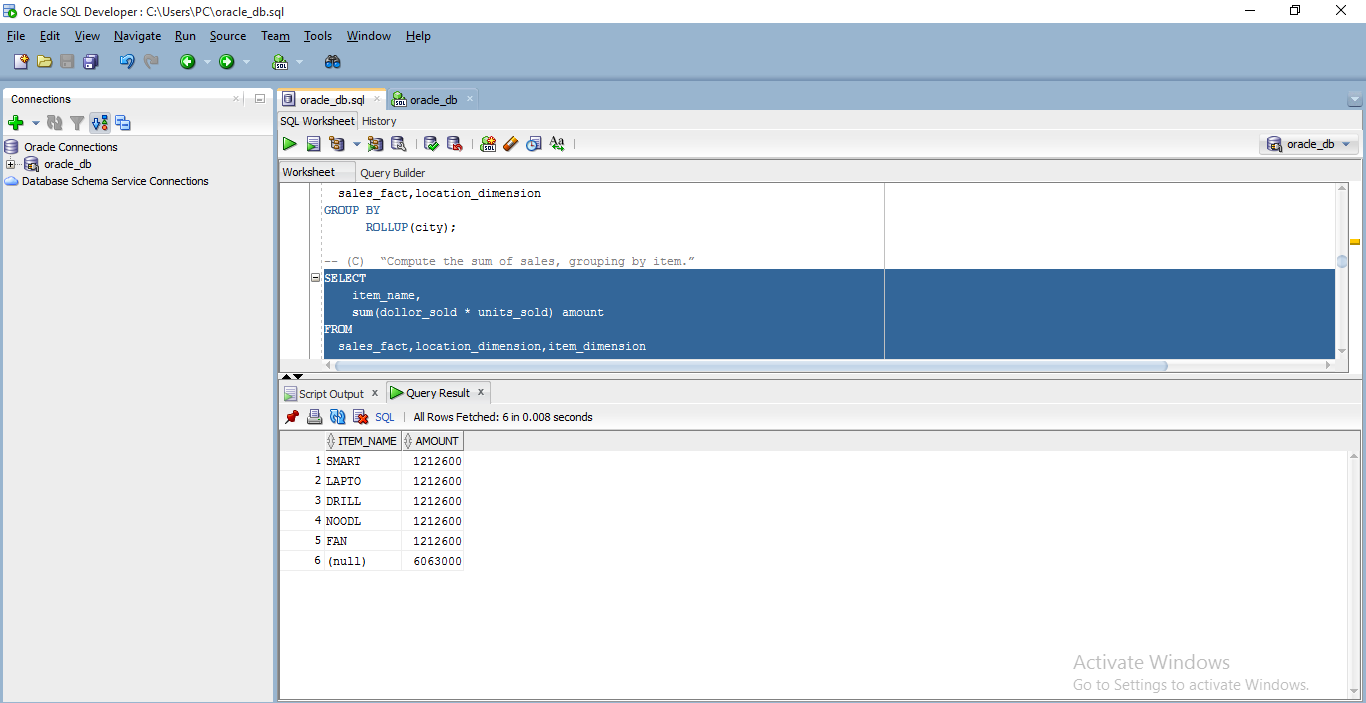
FROM

sales\_fact,location\_dimension,item\_dimension

GROUP BY

ROLLUP(item\_name);

Output🡪



-- (D) What is the maximum number of cells in the base cuboid.

-- (p+1)^n Here p=4, n = 4

-- So (p+1)^n => (4+1)^4 -->so, maximum number of cells in base cuboid is = 625

-- (E) What is the minimum number of cells in base cuboid.

-- Here p=4 --> so, minimum number of cells in base cuboid is = 4

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

-- Que 2)

-- CREATE game table

create table Game( Game\_Id Number(5), Name varchar(20));

-- CREATE location table

create table Location( Location\_Id Number(5), City varchar(20), state Varchar(15));

-- CREATE date table

create table Date\_Game( date\_Id Number(5), Day Number(5),Month Number(5), Year Number(5));

--CREATE spectator table

create table spectator( spectator\_Id Number(5),Name Varchar(15), Type varchar(20));

-- CREATE Sales table which also contain COUNT and CHARGE

create table sales\_game( sales\_id Number(5),Game\_Id Number(5),Date\_Id Number(5),Spectator\_Id Number(5),Location\_Id Number(5), Count Number(5), Charge Number(5));

-- ADD Primary Key to game table

alter table Game add constraint pk\_Game primary key(Game\_Id);

-- ADD Primary Key to location table

alter table Location add constraint pk\_Location primary key(Location\_Id);

-- ADD Primary Key to date table

alter table Date\_Game add constraint pk\_Date\_Game primary key(date\_id);

-- ADD Primary Key to spectator table

alter table spectator add constraint pk\_spectator primary key(spectator\_Id);

-- ADD Primary Key to sales table

alter table sales\_game add constraint pk\_sales\_game primary key(sales\_Id);

-- Connecting all tables to sales table By Foreign keys

alter table sales\_game add constraint fk\_Game\_sales\_game foreign key (Game\_Id) references Game(Game\_Id);

alter table sales\_game add constraint fk\_Location\_sales\_game foreign key(Location\_Id) references Location(Location\_id);

alter table sales\_game add constraint fk\_Date\_Game\_sales\_game foreign key(Date\_Id) references Date\_game(Date\_id);

alter table sales\_game add constraint fk\_spectator\_sales\_game foreign key(spectator\_Id) references spectator(spectator\_id);

desc Game;

desc Location;

desc Date\_Game;

desc spectator;

desc sales\_game;

-- Insert DATA into Game table

insert into Game values (101,'Cricket');

insert into Game values (102,'Football');

insert into Game values (103,'Kabaddi');

insert into Game values (104,'Basket Ball');

-- Insert DATA into location table

insert into Location values(201,'Patna','Bihar');

insert into Location values(202,'Ranchi','Jharkhand');

insert into Location values(203,'GM\_Place','West Bengal');

insert into Location values(204,'Mumbai','Maharashtra');

-- Insert DATA into Date table

insert into Date\_Game values(301,23,11,2009);

insert into Date\_Game values(302,12,4,2010);

insert into Date\_Game values(303,5,9,2019);

insert into date\_Game values(304,30,6,2021);

-- Insert DATA into spectator table

insert into spectator values(401,'Gaurav','Student');

insert into spectator values(402,'Sunny','Adult');

insert into spectator values(403,'Pankaj','Senior');

insert into spectator values(404,'Abhishek','Student');

-- Insert DATA into sales table

insert into sales\_game values(1,101,301,401,201,34,4500);

insert into sales\_game values(2,102,302,402,202,12,9800);

insert into sales\_game values(3,103,303,403,203,45,3400);

insert into sales\_game values(4,104,304,404,204,67,6700);

select\* from Game;

select\* from Location;

select\* from Date\_Game;

select\* from spectator;

select\* from sales\_game;

-- A) Implement that operation using OLAP query language.

select

city,

sum(charge\*count)

from

sales\_game,Location,spectator,Date\_game

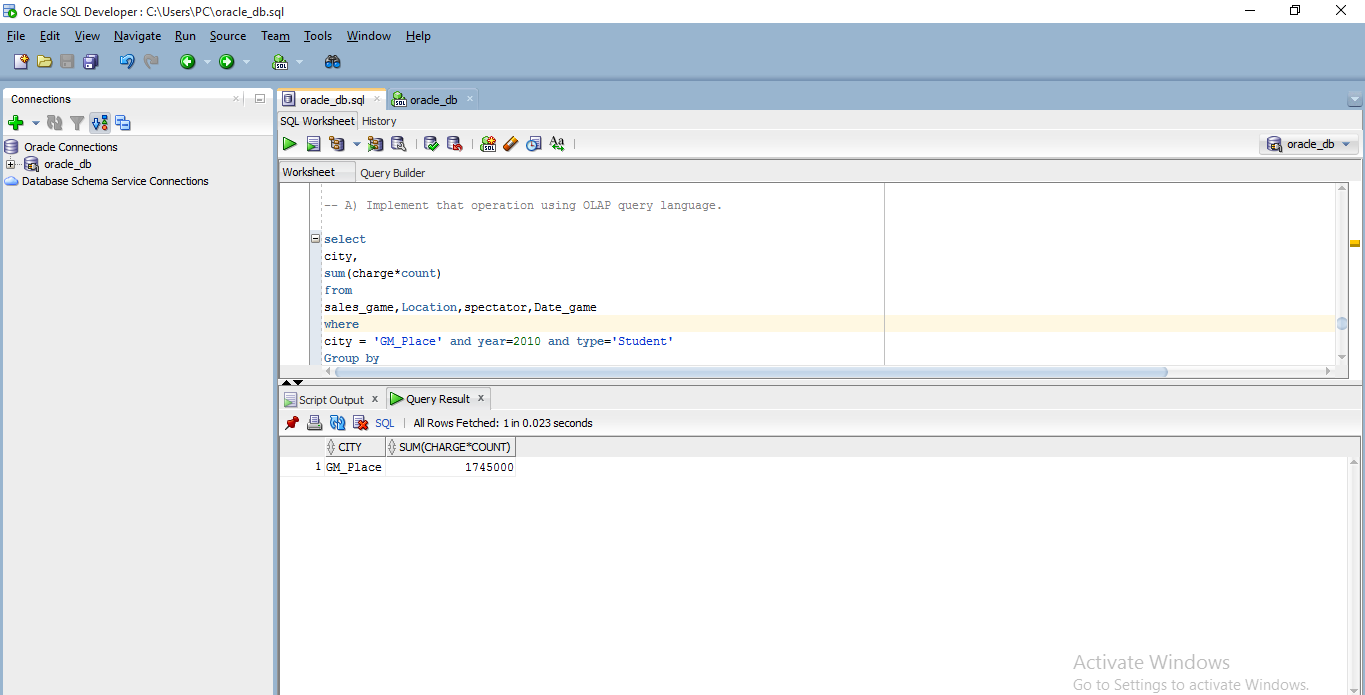
where

city = 'GM\_Place' and year=2010 and type='Student'

Group by

city;

Output🡪



-- B) Perform roll up operation from date to year.

SELECT

day,month,year,

sum(charge \* count) amount

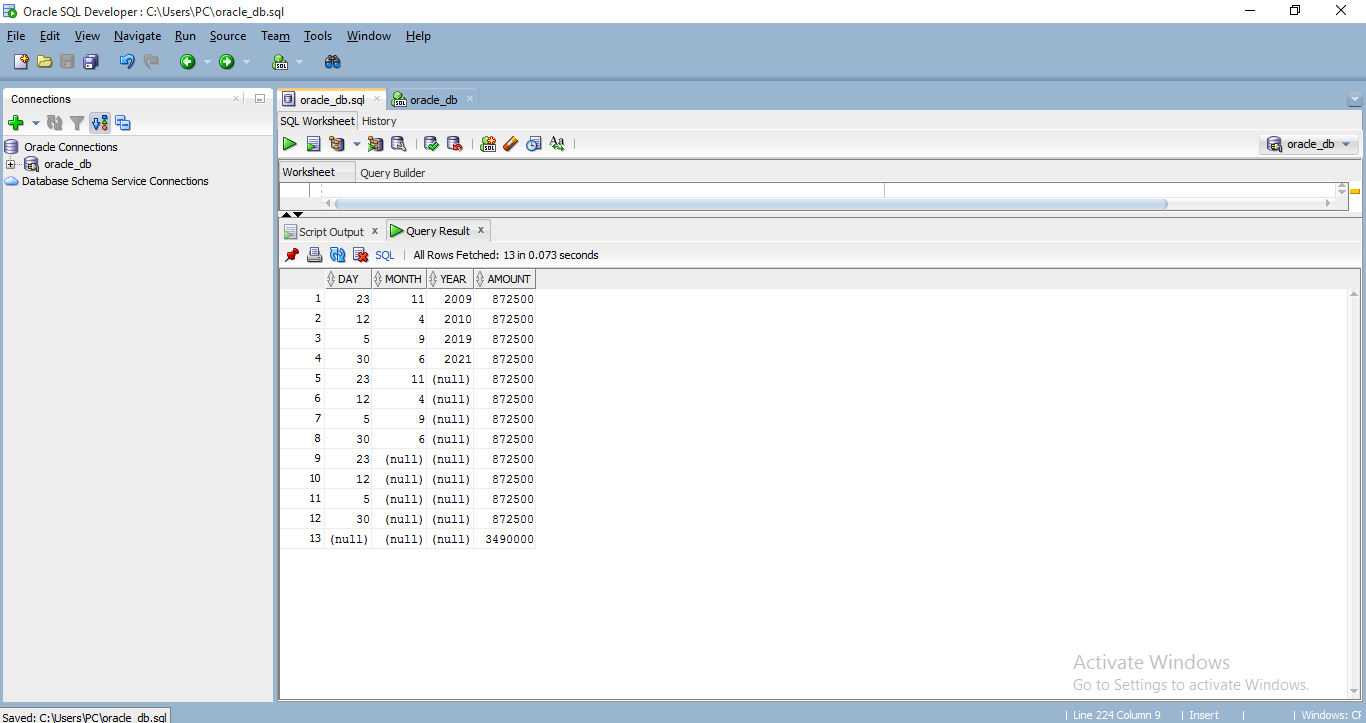
FROM

sales\_game,date\_game

GROUP BY

ROLLUP(day,month,year);

Output🡪



-- C) What is the average charge paid by students, adults and seniors for each category you need to compute average?

select

type,

avg(charge\*count)

from

sales\_game,spectator

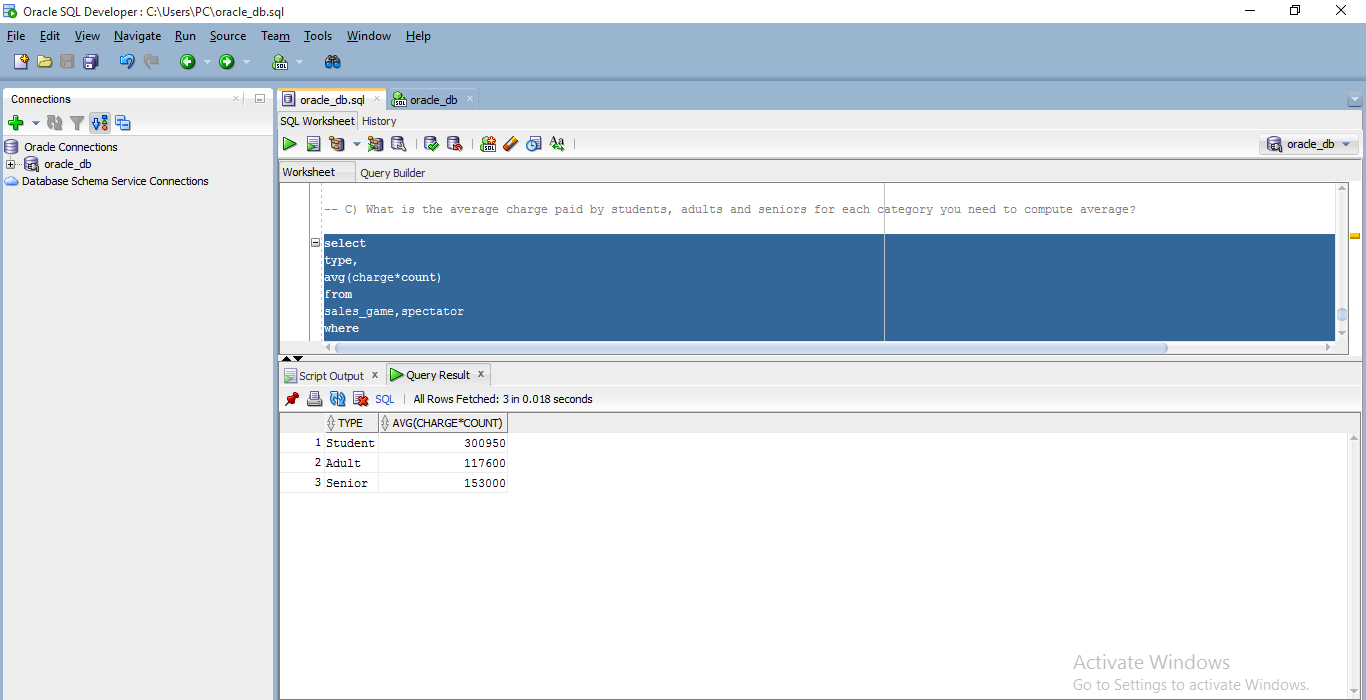
where

spectator.spectator\_id = sales\_game.spectator\_Id

group by

type;

Output🡪



-- D) Draw the snowflake schema diagram for the data ware house.

Answer 🡪

