Etsy
Database Management System

By –

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Project Overview

- This project focuses on developing a database management system Etsy. Etsy database management system will ensure improved user experience for all the system users. This database management system will be used to investigate the transactional records between customers and products and ensure all the orders are delivered and check for the available quantity of products in the warehouse.

Goals

Etsy Database Management system will ensure an improved User experience between all the users of this system as they can view the products online and buy from the comfort of their home. Also, they will have an immense variety of products to choose from.

This system will help to solve all the administrative problems, since it eases the storage, maintenance, and access to data records.

This will help the sellers to keep track of all the products which have huge demand in a particular location and vice versa. Furthermore, it will help to keep track of products stocks, number of products to manufacture at a particular budget.

ERD Data Requirement – Business Rules

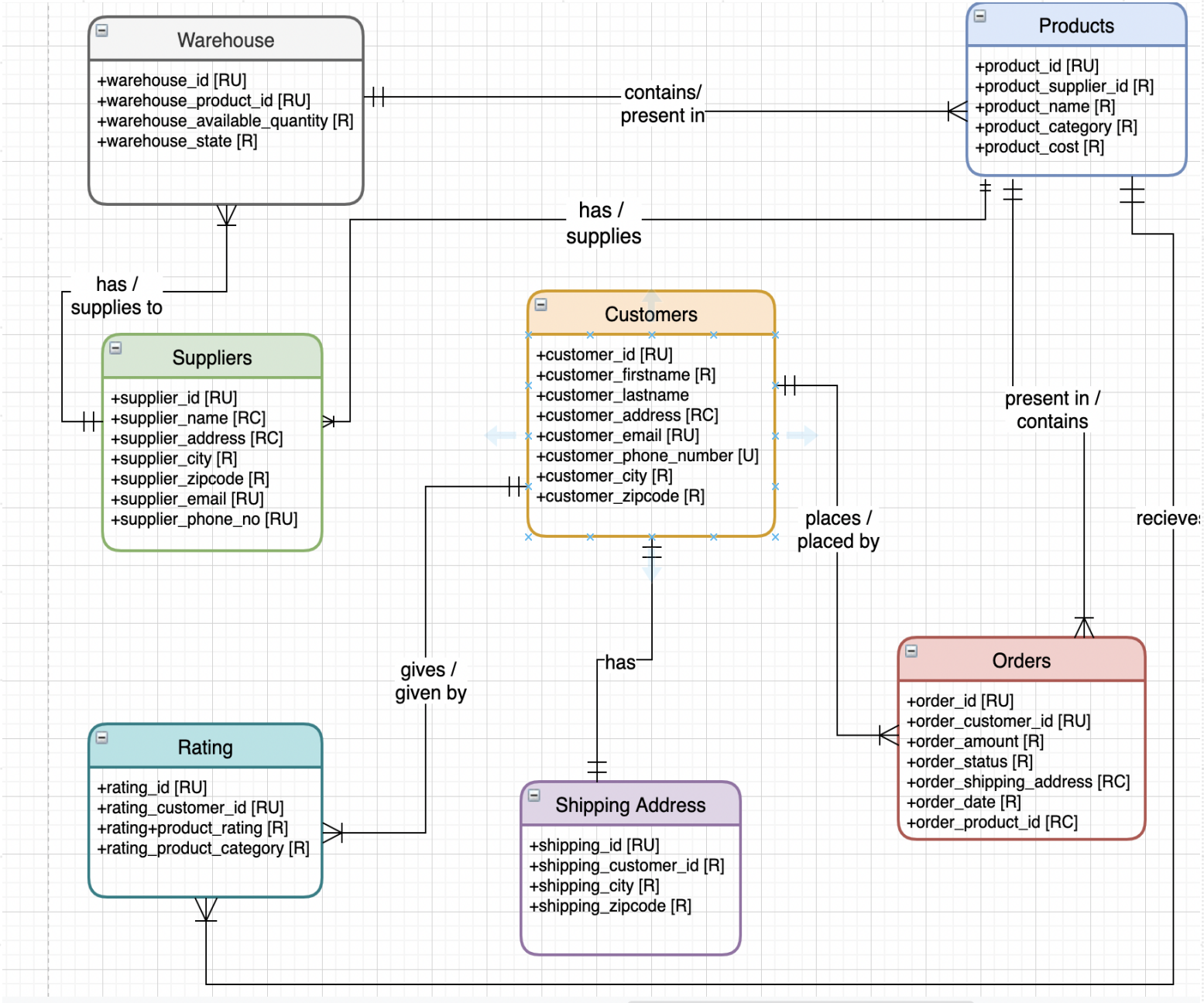
Entities and Attributes

Entity	Attribute	Props	Description
customer	customer_id	RU	Customer ID
	customer_first_name	R	Customer First name
	customer_last_name		Customer last name
	customer_address	RC	customer address
	customer_email	RU	customer email
	customer_phone_number	U	customer phone number
	customer_city	R	customer city
	customer_zip_code	R	customer zip code
suppliers	supplier_ID	RU	supplier id
	supplier_name	RC	supplier name
	supplier_address	RC	supplier address
	supplier_city	R	supplier city
	supplier_zip_code	R	supplier zip code
	supplier_email	RU	supplier email
	supplier_phone_no	RU	supplier phone number
orders	order_id	RU	Order ID
	order_customer_id	RU	Customer's order ID
	order_shipping_address	RC	Order's shipping address
	order_amount	R	Order amount
	order_date	R	Order date
	order_status	R	Order status
products	product_id	RU	Product ID
	product_supplier_id	R	Product's Supplier ID
	product_name	R	Product Name
	product_category	R	Product Category
	product_cost	R	Product Cost
rating	rating_id	RU	Rating ID
	rating_customer_id	RU	Customer ID
	rating_product_rating	R	Product Rating
	rating_product_category	R	Product Category
shipping address	shipping_id	RU	Shipping ID
	shipping_customer_id	R	Customer ID
	shipping_city	R	City
	shipping_zip_code	R	Zip
warehouse	warehouse_id	RU	Warehouse ID
	warehouse_product_id	RU	Product ID
	warehouse_available_quantity	R	Available quantity
	warehouse_state	R	State

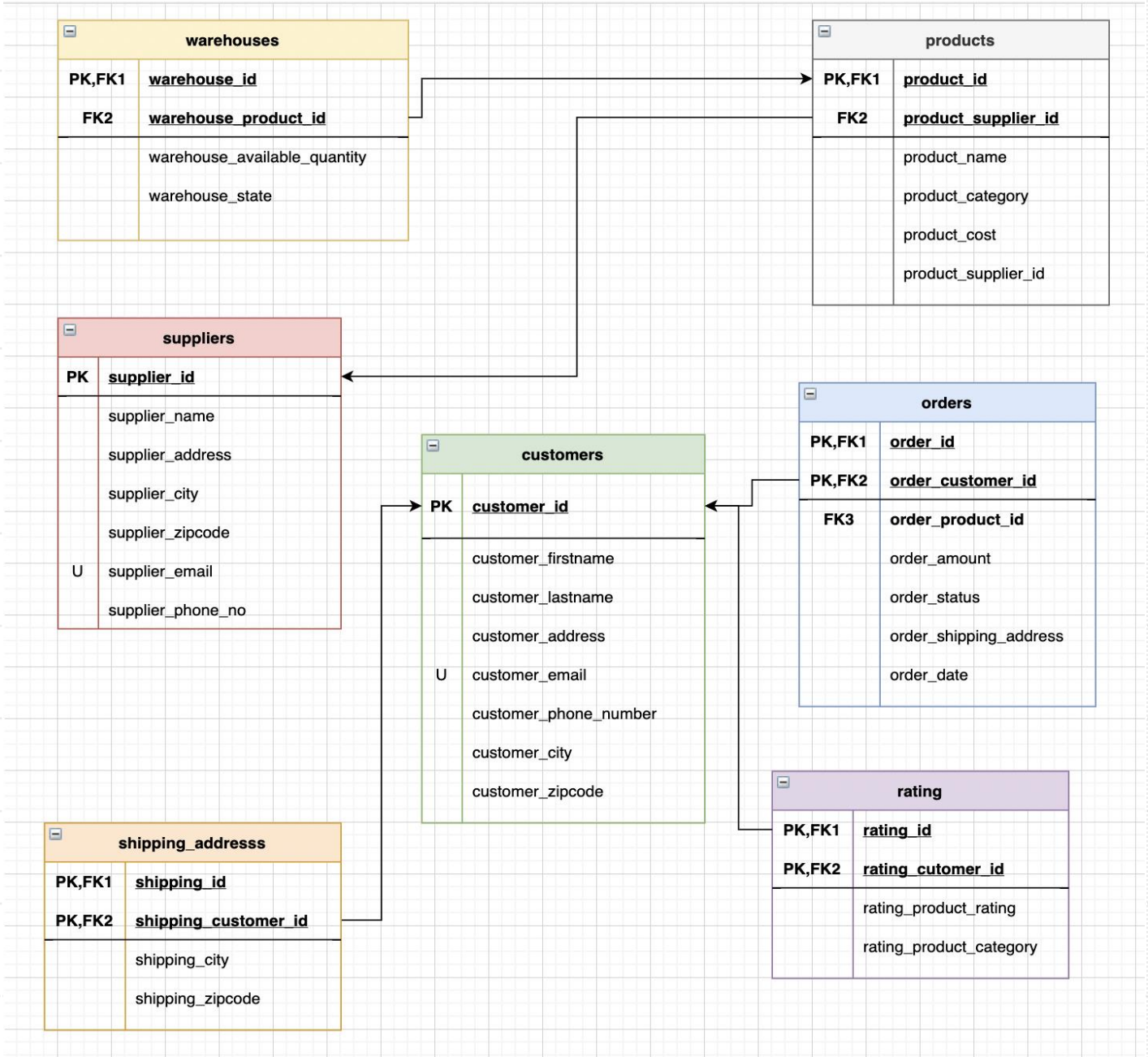
Relationships

Relationship	Entity	Rule	Min	Max	Entity
customer-order	customer	places	1	M	order
	order	placed by	1	1	customer
customer-rating	customer	gives	1	M	rating
	rating	given by	1	1	customer
products-orders	product	present in	M	1	order
	order	contains	1	M	products
Supplier-warehouse	supplier	supplies to	1	M	warehouse
	warehouse	has	1	M	supplier
products-rating	products	receives	1	M	ratings
warehouse-product	warehouse	contains	1	M	products
	product	present in	1	M	warehouse
customer-shipping address	customer	has	1	1	shipping address

Conceptual Model



Logical Model



Up/Down Script

```
52
53  GO
54  -- UP Metadata
55
56  create table customers (
57      customer_id int not null,
58      customer_first_name varchar(20) not null,
59      customer_last_name varchar(20) not null,
60      customer_address varchar(200) not null,
61      customer_email varchar(20) not null,
62      customer_phone_number int not null,
63      customer_city varchar(20) not null,
64      customer_zip_code int not null,
65      constraint pk_customers_customer_id primary key (customer_id),
66      constraint u_customer_email unique (customer_email)
67  )
68
```

Results Messages

	customer_id	customer_first_name	customer_last_name	customer_address	customer_email	customer_ph
1	101	Abby	Watson	Flat 5, 67 George Downing Es…	awatson@gmail.com	183873499
2	102	Kayla	Gandel	171 Great Ducie Street	kgandel@gmail.com	605199075
3	103	Bryce	White	3 Norman Cottages, Michaelst…	bwhite@gmail.com	863214451
4	104	Debbie	Black	5 Caravel Mews	dblack@gmail.com	937346679
5	105	John	Ellis	Folly Barn Cottage	jellis@gmailcom	267815990
6	106	Adison	Shepherd	Ground Floor And Basement Pr…	ashepherd@gmail.com	110463848
7	107	Chase	Jackson	19 Redington Gardens	cjackson@gmail.com	795179478
8	108	Eliza	Gray	85 Cedar Avenue	egray@gmail.com	138568487

Create a report to fetch details of products being supplied and from which warehouse. Also display the available quantity of the products in the warehouse

Run | Cancel | Disconnect | Change Connection | vbay | Explain | Enable SQLCMD | Export as Notebook

```
1    --3
2    --Create a report to fetch details of products being supplied and also from which warehouse.
3    --    Also display the available quantity of the products in the warehouse
4
5    select p.product_id, p.product_name, s.supplier_name,w.warehouse_product_id, w.warehouse_available_quantity, w.warehouse_state
6    from products p
7    join warehouses w on w.warehouse_product_id=p.product_id
8    join suppliers s on s.supplier_id=p.product_supplier_id
9    where w.warehouse_available_quantity > 0
```

Results | Messages

	product_id	product_name	supplier_name	warehouse_...	warehouse_...	warehouse_...
1	403	TV	Patrick	403	42	NJ
2	412	Lamps	Chris	412	22	NJ
3	404	Earphones	Chris	404	91	NY
4	408	Pants	Ryan	408	10	NJ
5	405	Watch	Matt	405	66	CA
6	409	Cap	Peter	409	54	NY
7	406	T-Shirt	Peter	406	38	TX
8	410	Jackets	Adam	410	34	CA
9	407	Shirt	Nick	407	79	MA
1...	411	Sofa Set	Rick	411	89	TX
1...	408	Pants	Ryan	408	11	TX
1...	412	Lamps	Chris	412	45	MA
1...	409	Cap	Peter	409	25	WA

Ln 9, Col 42 | Spaces: 4 | UTF-8 | CRLF | SQL | localhost : vbay | MSSQL | 15 rows | 00:00:00

Create a statistical report showing Product category wise number of products, minimum, maximum and average cost of the products

Run | Cancel | Disconnect | Change Connection | vbay | Explain | Enable SQLCMD | Export as Notebook

```
11    -- 7
12    --Create a statistical report showing Product category wise number of products, minimum, maximum and average cost
13    --     of the products
14
15    select
16    product_category,
17    count(product_category) as count_product_category,
18    MIN(product_cost) as min_product_cost,
19    max(product_cost) as max_product_cost,
20    AVG(product_cost) as avg_product_cost
21    from products
22    GROUP BY product_category
23    order by product_category
```

Results | Messages

product_category	count_product_category	min_product_cost	max_product_cost	avg_product_cost
clothing	9	19.0000	500.0000	254.6666
Crafts	5	49.0000	97.0000	72.2000
Electronics	5	17.0000	81.0000	57.0000
Home & living	5	25.0000	82.0000	56.6000
Toys	5	23.0000	83.0000	54.0000

Create a report to show ranking of products sold with respect to sales in each category. Display Product category, Product Name, Product ID, Total Sales of Product and Rank.

Project_659.sql - disconnected U | SQLQuery_1.sql - localh...ay (sa) 9+, U | SQLQuery_1 - localh...ay (sa)

Run | Cancel | Disconnect | Change Connection | vbay | Explain | Enable SQLCMD | Export as Notebook

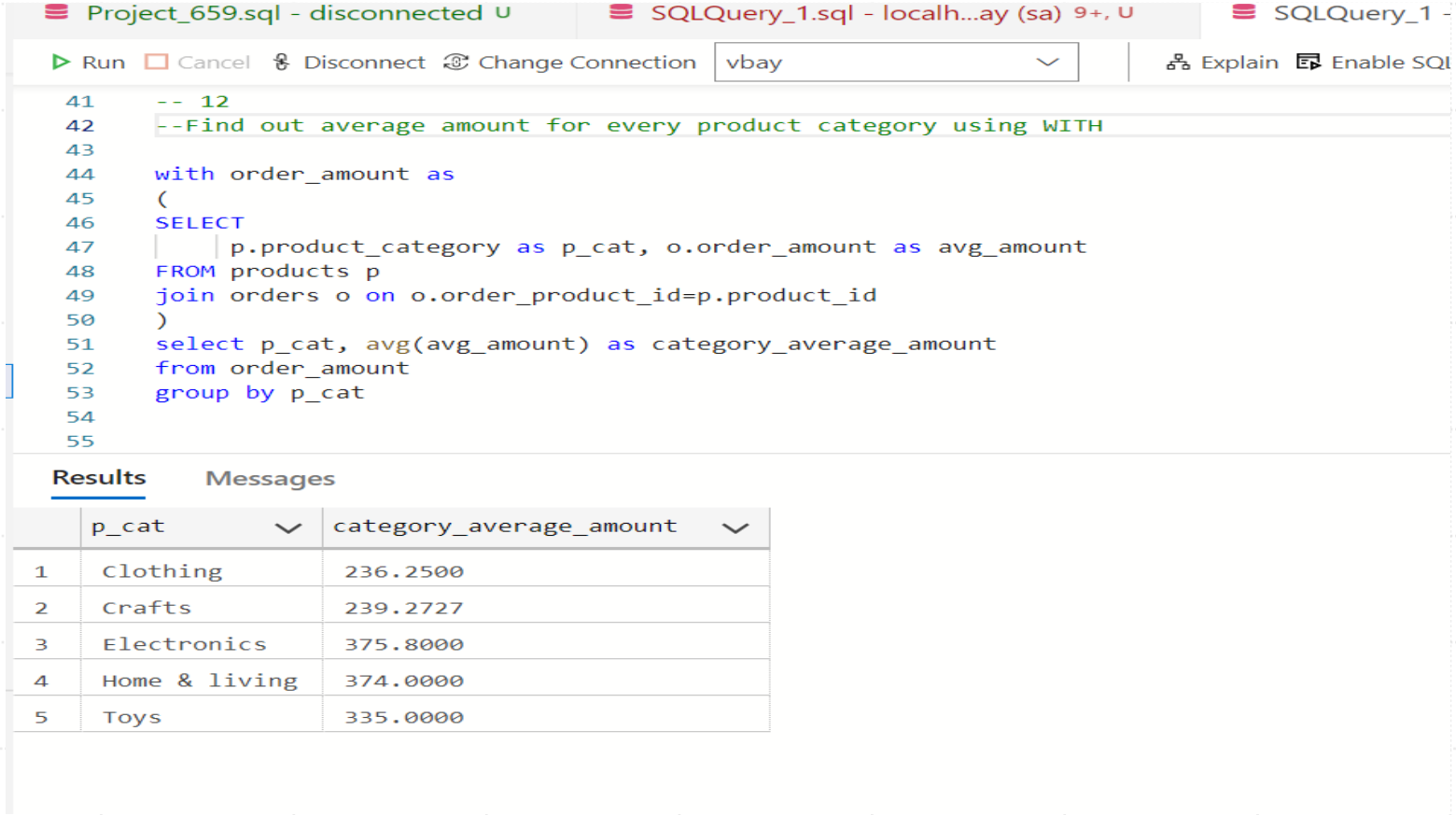
```
25    -- 10
26    -- Create a report to show ranking of products sold with respect to sales in each category.
27    --      Display Product category,Product Name, Product ID, total sales of product and rank.
28
29    SELECT
30    p.product_category,  p.product_name,  o.order_product_id,
31    sum(o.order_amount) as total_sales,
32    rank() over (partition by p.product_category order by sum(o.order_amount) desc) as Rank_prod
33    FROM orders o
34    join  products p
35    on o.order_product_id = p.product_id
36    group by   p.product_category,
37    p.product_name,  o.order_product_id
38    order by   p.product_category asc, sum(o.order_amount) desc
```

Results | Messages

	product_category	product_name	order_product_id	total_sales	Rank_prod
	Clothing	Jackets	410	578.0000	1
	Clothing	Cap	409	422.0000	2
	Clothing	Shirt	407	335.0000	3
	Clothing	T-Shirt	406	321.0000	4
	Clothing	Pants	408	234.0000	5
	Crafts	Paint Paper	420	1023.0000	1
	Crafts	Canvas	418	922.0000	2
	Crafts	Paints	416	387.0000	3
	Crafts	Markers	419	300.0000	4
0	Electronics	Laptop	402	1174.0000	1
1	Electronics	Earphones	404	705.0000	2

Ln 38, Col 62 | Spaces: 4 | UTF-8 | CRLF | SQL | localhost : vbay | MSSQL | 15 rows | 00:00:00

Find out average amount for every product category using WITH clause.



Generate a report on ratings of products. Create a column based on ratings categorizing it as Good, Avg, Bad

```
56    -- 13
57    -- Generate a report on ratings of products. Create a column based on ratings categorizing it as Good, Avg, Bad
58
59    select
60    product_id,  product_name,  product_category,  rating_product_rating,
61    customer_first_name + ' ' + customer_last_name as customer_fullname,
62    Case
63        when rating_product_rating IN (1,2)THEN 'BAD'
64        when rating_product_rating IN (3,4) THEN 'AVG'
65        ELSE 'GOOD'
66    END AS rating_category
67    from products p
68    JOIN ratings r on p.product_id = r.rating_product_id
69    JOIN customers c  on c.customer_id = r.rating_customer_id
```

Results Messages

	product_id	product_name	product_category	rating_product_rating	customer_fullname	rating_category
1	402	Laptop	Electronics	1	Eliza Gray	BAD
2	420	Paint Paper	Crafts	3	Chase Jackson	AVG
3	419	Markers	Crafts	1	John Ellis	BAD
4	407	Shirt	Clothing	2	Chris Wilson	BAD
5	413	Chairs	Home & living	2	Ryan Brayer	BAD
6	403	TV	Electronics	3	Hermonie Granger	AVG
7	423	Puzzles	Toys	3	Abby Watson	AVG
8	422	Toy Train	Toys	2	Paul Pratt	BAD
9	408	Pants	Clothing	2	Adison Shepherd	BAD
10	423	Puzzles	Toys	2	Kayla Gandel	BAD

Ln 68, Col 55 Spaces: 4 UTF-8 CRLF SQL localhost : vbay MSSQL 19 rows 00:00:00

Create a procedure to insert values in the orders table for every new order placed.

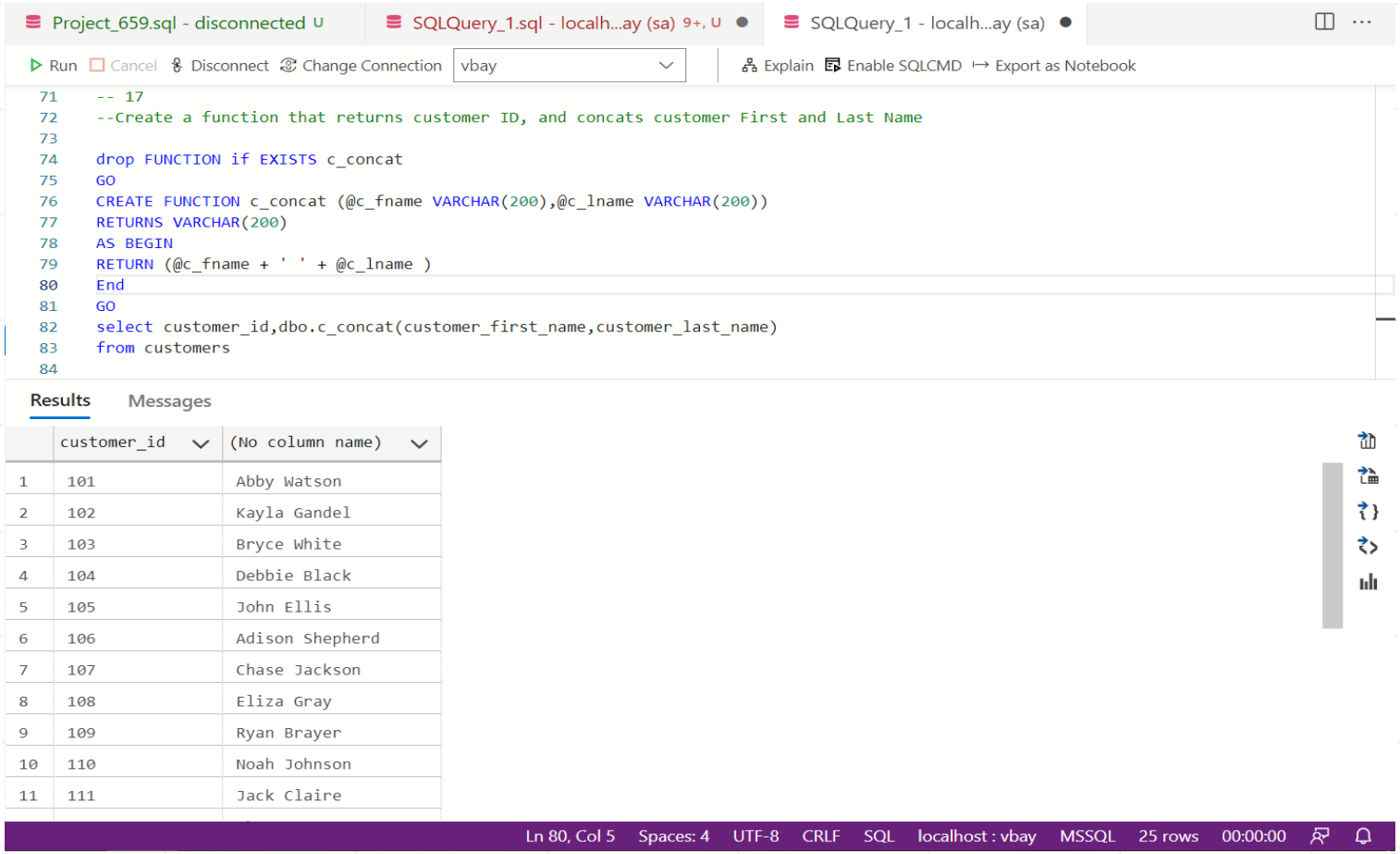
```
194  drop PROCEDURE if EXISTS o_insert_orders
195  GO
196  CREATE PROCEDURE o_insert_orders
197  (
198      @order_id as int,
199      @order_customer_id as int,
200      @order_shipping_address as varchar(200),
201      @order_product_id as int,
202      @order_order_date as date,
203      @order_amount as money,
204      @order_status as varchar(20)
205  ) as
206  BEGIN
207      INSERT into orders (order_id,order_customer_id,order_shipping_address,order_product_id,order_order_date,order_amount,
         order_status)
208      VALUES (@order_id ,@order_customer_id,@order_shipping_address,@order_product_id,@order_order_date,@order_amount,@order_status)
209  END
210  GO
211  exec o_insert_orders @order_id= 332, @order_customer_id = 110, @order_shipping_address = '35 Ferryhill Road', @order_product_id =
     418,
212  @order_order_date = '12/01/2021', @order_amount = 550, @order_status = 'active'
```

Results Messages

	order_id	order_customer_id	order_shipping_address	order_product_id	order_order_date	order_amount	ord
1	332	110	35 Ferryhill Road	418	2021-12-01	550.0000	
2	331	110	35 Ferryhill Road	418	2021-12-01	550.0000	
3	330	123	25 Winstanley Road	418	2018-12-17	142.0000	
4	329	110	35 Ferryhill Road	408	2017-01-07	234.0000	
5	328	120	4A Holly Hill Road	418	2016-10-28	230.0000	

Ln 216, Col 1 Spaces: 4 UTF-8 CRLF SQL localhost : vbay Choose SQL Language 32 rows 00:00:00

Create a function that returns customer ID, and concatenate customer First and Last Name



Add a column in orders. Create a trigger to show the status of order

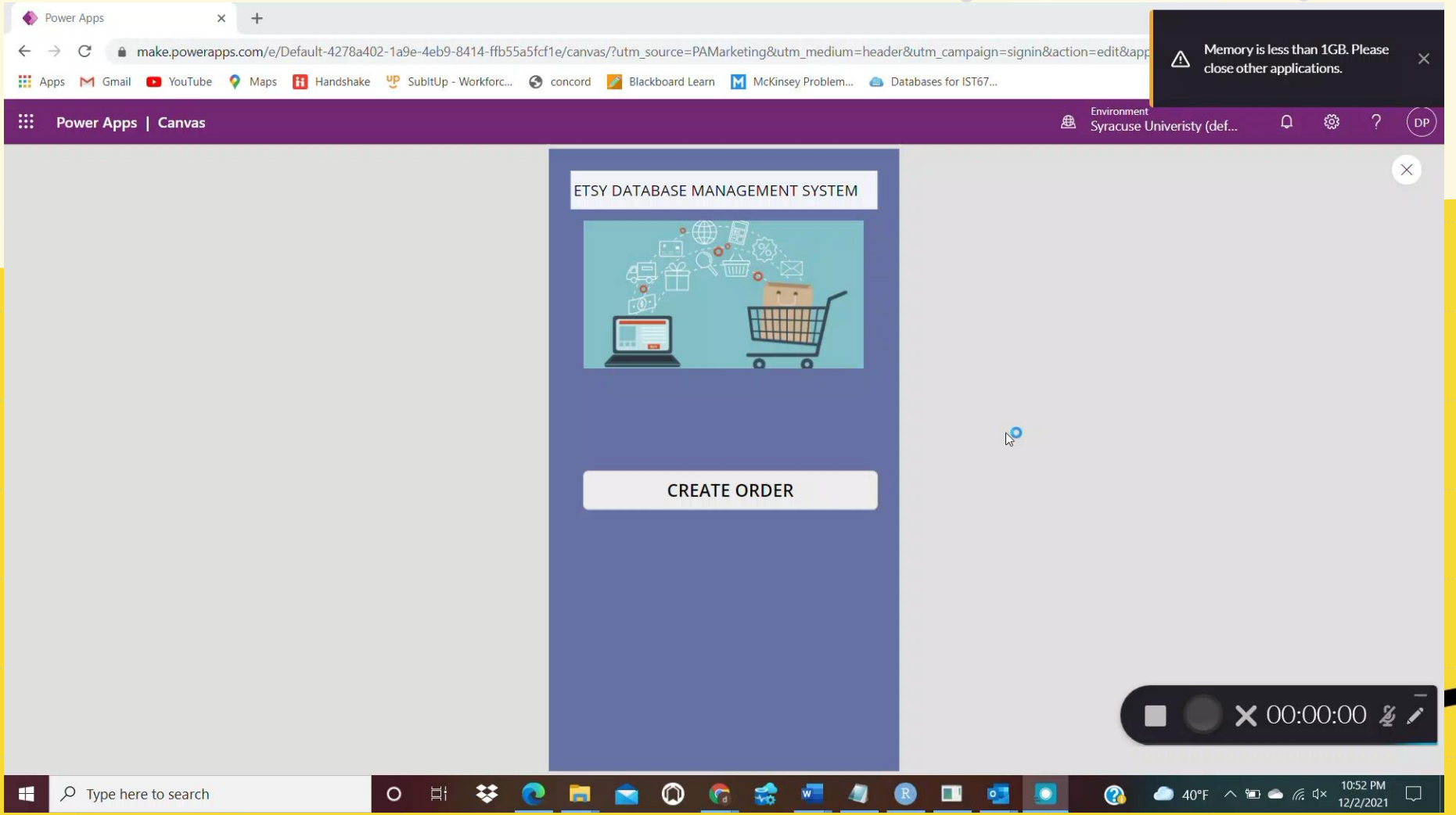
```
293    --19
294    --Add a column in orders. Create a trigger to show the status of order
295    alter table orders
296    add order_stat1 char(1)
297    GO
298    drop TRIGGER if EXISTS o_trigger_update
299    GO
300    create TRIGGER o_trigger_update
301    on orders
302    after update
303    as BEGIN
304    if UPDATE(order_status)
305    BEGIN
306    update orders set order_stat1=
307        case
308            when order_status='active' then 'N'
309            when order_status='completed' then 'Y'
310        end
311    END
312    END
313    update orders set order_status = 'completed' where order_id=305
314    select * from orders where order_id=305
315    select * from orders
316
317
```

Results Messages

ipping_address	order_product_id	order_order_date	order_amount	order_status	order_stat	order_stat1
yhill Road	407	2016-05-05	335.0000	completed	*NULL*	Y

Ln 316, Col 1 Spaces: 4 UTF-8 CRLF SQL localhost : vbay Choose SQL Language 34 rows 00:00:00

Implementation



THANK YOU!