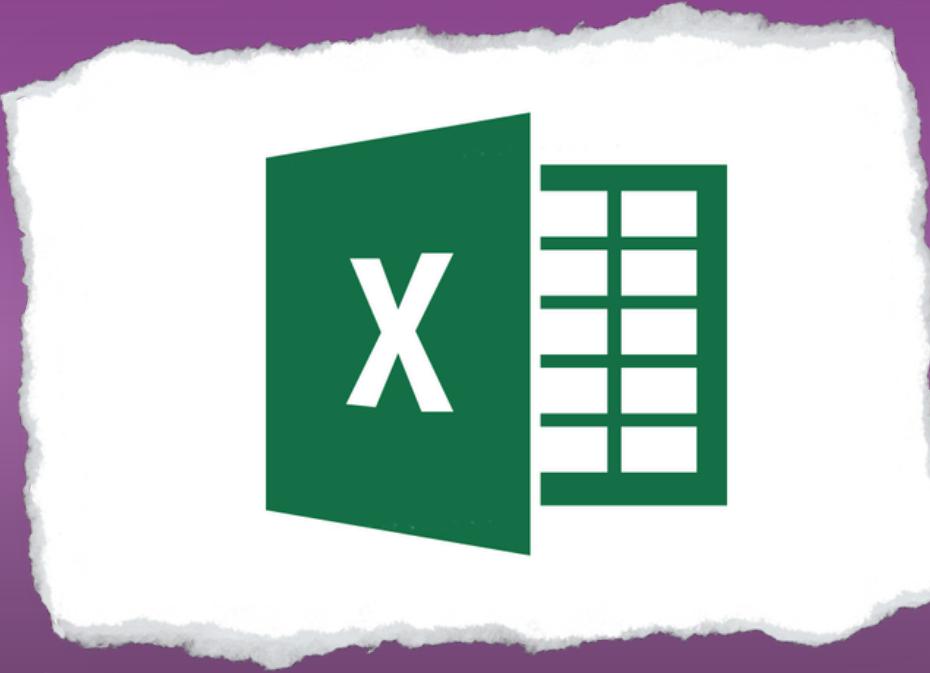


Project -Based Intern

BUSINESS INTELLIGENCE ANALYST - BANK MUAMALAT

FAHMA MU'JIZATIL QUR'ANI

Tools



DATASET

- Table: *Customers*

	CustomerID	FirstName	LastName	CustomerEmail	CustomerPhone	CustomerAddress	CustomerCity	CustomerState	CustomerZip
1	1	Grazia	Rasmus	grasmusas@i2i...	(202) 577-2595	628 Buhler Junction	Washington	District of Columbia	20029
2	2	Bunny	Trevan	btrevanmj@wo...	917-903-2827	52 Cascade Drive	Jamaica	New York	11436
3	3	Tracie	Grayston	tgrayston7k@p...	404-868-2391	672 Comanche W...	Atlanta	Georgia	30343

- Table: *Orders*

	OrderID	Date	FirstNa	CustomerID	ProdNumber	Quantity
1	1	2020-01-01	Grazia	1866	Rasmus	EB514
2	2	2020-01-01	Bunny	1567	Trevan	RS706
3	3	2020-01-01	Tracie	2064	Grayston	TV804

DATASET

- Table: Products

	ProdNumber	ProdName	Category	Price
1	BP101	All Eyes Drone Blueprint	1	9.99
2	BP102	Bsquare Robot Blueprint	1	8.99
3	BP104	Cat Robot Blueprint	1	4.99

- Table: Products Category

	CategoryID	CategoryName	CategoryAbbreviation
1	1	Blueprints	BP
2	2	Drone Kits	DK
3	3	Drones	DS

TABEL	PRIMARY KEY
Customers	CustomerID
Orders	OrderID
Products	ProdNumber
Products Category	CategoryID

NEW TABLE

Membuat tabel baru berdasarkan informasi dari 4 dataset sebelumnya yang selanjutnya digunakan untuk keperluan analisis

```
SELECT  
orders.Date,  
CONCAT(orders.OrderID, '_', orders.CustomerID, '_', orders.ProdNumber) AS id_invoice,  
[product category].CategoryAbbreviation AS CategoryCode,  
[product category].CategoryName,  
products.ProdName,  
orders.Quantity,  
products.Price,  
(Quantity*products.Price) AS total_price,  
CONCAT(customers.FirstName, ' ', customers.LastName) AS CustomerName,  
customers.CustomerCity INTO newtable FROM orders  
LEFT JOIN products ON (orders.ProdNumber = products.ProdNumber)  
LEFT JOIN [product category] ON (products.Category = [product category].CategoryID)  
LEFT JOIN customers ON (orders.CustomerID = customers.CustomerID) ORDER BY orders.Date ASC
```

Query

	Date	id_invoice	CategoryCode	CategoryName	ProdName	Quantity	Price	total_price	CustomerName	CustomerCity
1	2020-01-01	1_1866_EB5...	EB	eBooks	Polar Robots	2	23.99	47.9800	Farrand Vasler	Jackson
2	2020-01-01	2_1567_RS7...	RS	Robots	RWW-75 Robot	3	883.00	2649.0...	Terencio Mc...	Katy
3	2020-01-01	3_2064_TV8...	TV	Training Videos	Drone Video Te...	6	37.99	227.9400	Geordie Stigg...	Saint Petersburg
4	2020-01-01	4_287_DK203	DK	Drone Kits	BYOD-220	1	69.00	69.0000	Elna De Angelo	Honolulu
5	2020-01-01	5_422_EB517	EB	eBooks	SCARA Robots	5	19.50	97.5000	Lucita Lesper	Des Moines

Table

DASHBOARD

Tampilan dashboard dari analisis pada tabel baru yang dibuat berdasarkan informasi dari 4 dataset

DASHBOARD SALES REPORT

DATA DASHBOARD

Years
2020 | 2021

CustomerCity
Pomona, Pompano Beach, Port Charlotte, Port Saint Lucie, Port Washington, Portland, Portsmouth, Prescott, Provo, Pueblo, Raleigh, Reading, Redwood City, Reno, Reston, Richmond, Ridgely, Riverside, Roanoke, Rochester, Rockford

Number of Transaction
1 YEAR (All)

Number of Transaction

Item Sales per Year

Total Sales & Number Item per Month

Top 5 City with the Most Sales

	Number of Transaction	Total Sales	Minimum Sales	Average of Sales	Maximum Sales	Sales by Months
Albany	27	\$25,406	\$15	\$941	\$4,495	[Sales by Months]
Houston	73	\$33,761	\$10	\$462	\$2,736	[Sales by Months]
Sacramento	41	\$33,380	\$20	\$814	\$4,495	[Sales by Months]
San Diego	56	\$29,229	\$18	\$522	\$4,104	[Sales by Months]
Washington	89	\$55,382	\$9	\$622	\$5,394	[Sales by Months]
Grand Total	286	\$177,158	\$9	\$619	\$5,394	[Sales by Months]

Total Sales: \$1,754,751 | Average Sales: \$526

Top 3 Item in Each Category by City

	Sum of Quantity
Blueprints	Sleepy Eye Blueprint: 312, Ladybug Robot Blueprint: 187, Creature Robot Arms Blueprint: 182
eBooks	Building Your Own Drone: 210, Polar Robots: 204, Photograph Drones: 199
Drones	DTI-84 Drone: 231, DX-145 Drone: 192, MICR-564K Drone: 173
Drone Kits	BYOD-500: 203, BYOD-200: 191, BYOD-220: 186
Robot Kits	BYOR-1000: 198, BYOR-3000: 196, BYOR-3535: 186
Training Videos	AI for Educators: 211, Understanding Automation: 183, Drone Video Techniques: 183
Robots	RCB-889 Robot: 208, RXW-9807 Robot: 190, MICR-23K Robot: 175
Grand Total	4200

Bank Muamalat

VIX - Business Intelligence Analyst

Berapa banyak item terjual dan total penjualan per bulan pada tahun 2021?

```
SELECT DATENAME(mm, Date) AS Month, FORMAT(SUM(total_price), 'C', 'en-us') AS 'Total Sales (Price)',  
SUM(Quantity) AS 'Number of Items Sold (Item)'  
FROM newtable WHERE YEAR(Date) = 2021 GROUP BY DATENAME(mm, Date), MONTH(Date) ORDER BY MONTH(Date)
```

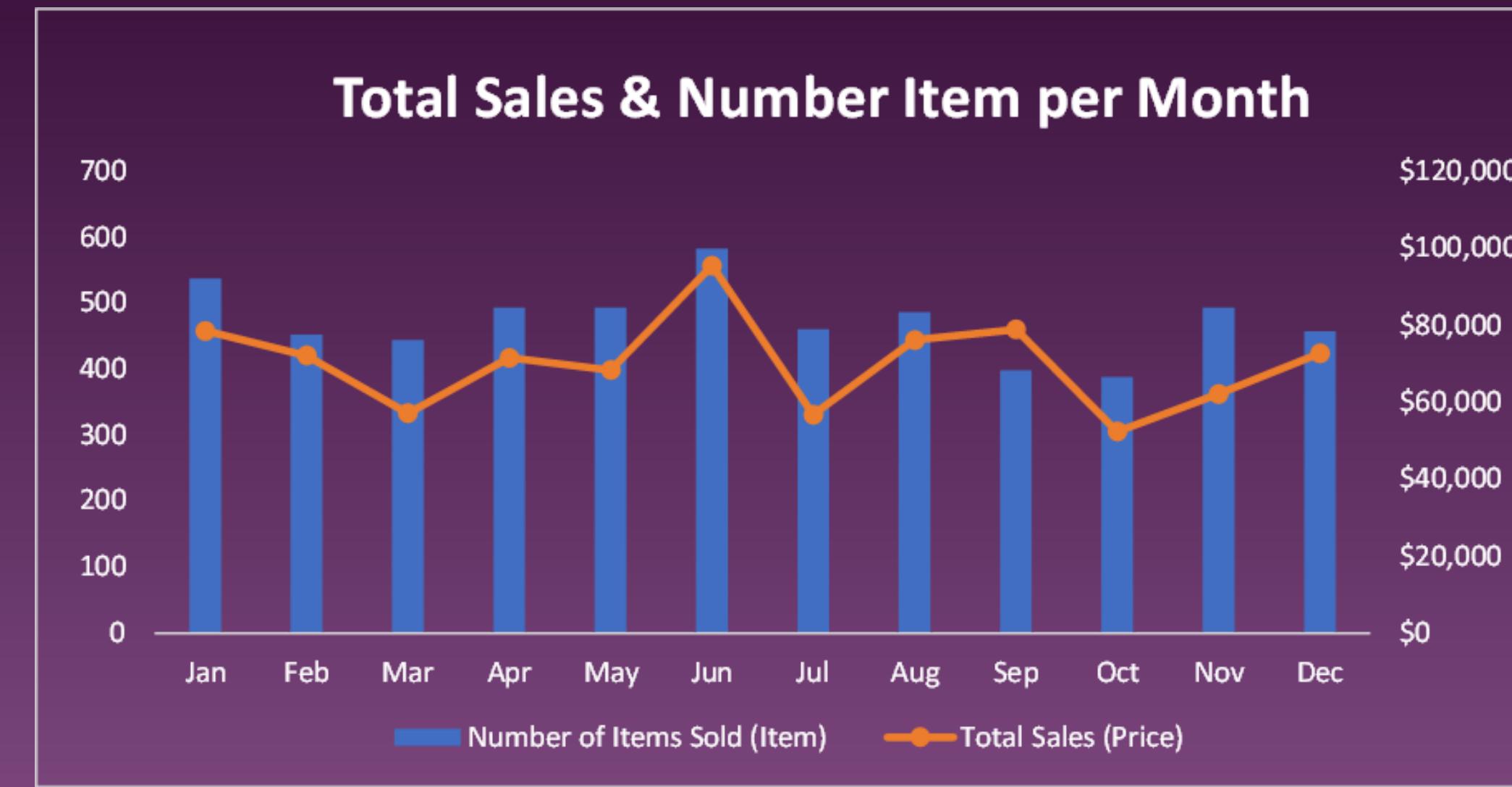
Output SQL:

	Month	Total Sales (Price)	Number of Items Sold (Item)
1	January	\$78,479.05	537
2	February	\$72,040.18	452
3	March	\$57,080.91	444
4	April	\$71,467.02	493
5	May	\$68,308.81	493
6	June	\$95,401.53	582
7	July	\$56,720.86	460
8	August	\$76,127.18	486
9	September	\$78,851.44	398
10	October	\$52,348.49	388
11	November	\$62,073.12	493
12	December	\$72,641.89	457

Output Excel:

Years	2021	
	Row Labels	Total Sales (Price)
Jan		\$78,479
Feb		\$72,040
Mar		\$57,081
Apr		\$71,467
May		\$68,309
Jun		\$95,402
Jul		\$56,721
Aug		\$76,127
Sep		\$78,851
Oct		\$52,348
Nov		\$62,073
Dec		\$72,642
Grand Total		\$841,540
		5683

Grafik banyaknya item terjual dan total penjualan per bulan pada tahun 2021



Pada grafik di atas, penjualan item tahun 2021 paling banyak terjadi pada bulan Juni, yaitu sebanyak **582** item dengan total penjualan tertinggi sebesar **\$95.402**. Sedangkan penjualan paling sedikit terjadi pada bulan Oktober sebanyak **388** item dengan total penjualan terendah sebesar **\$52.348**.

Berapa banyak item terjual di tiap category pada tahun 2020 dan 2021 ?

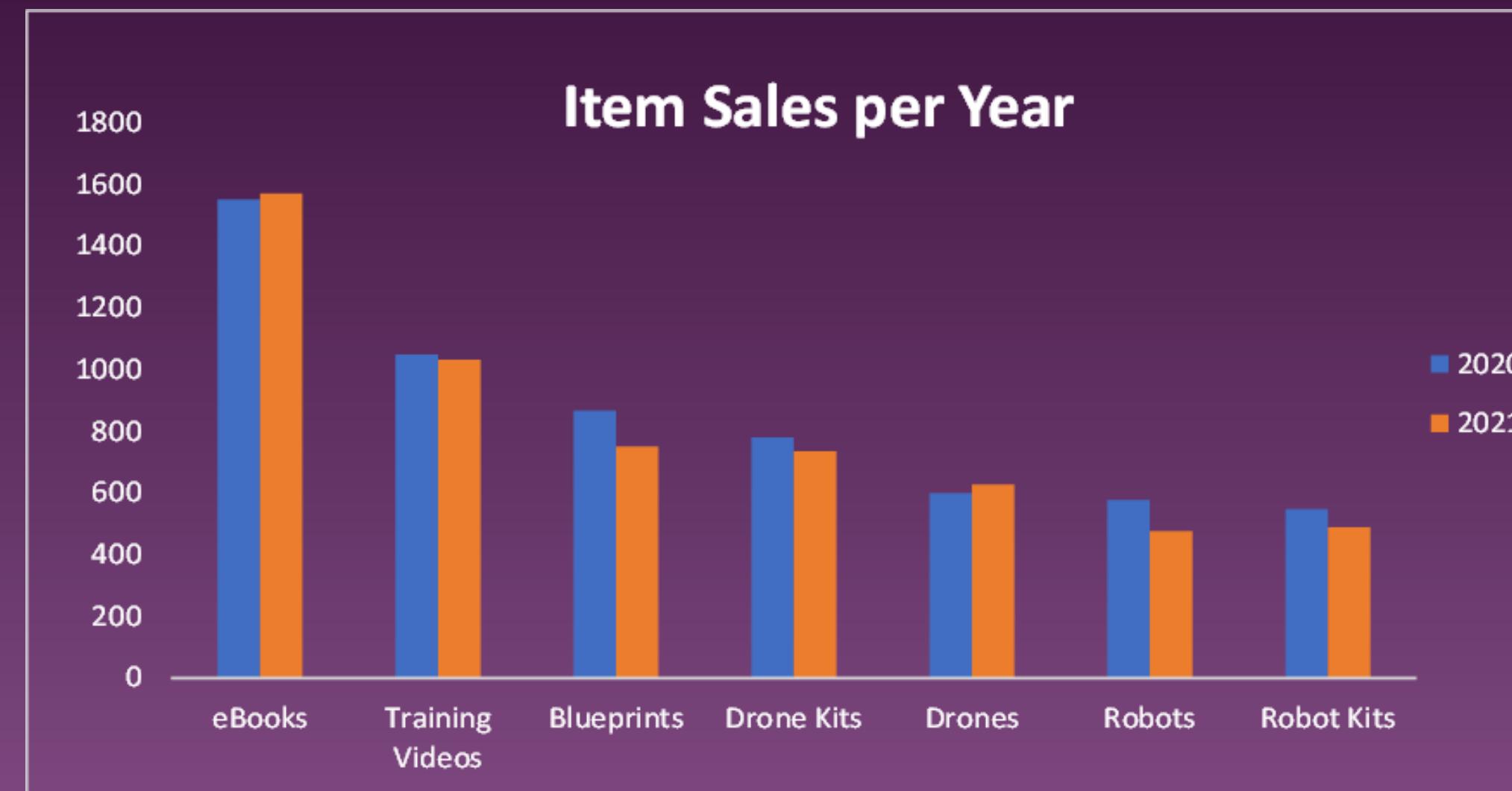
```

SELECT
    CategoryName,
    SUM(CASE WHEN YEAR(Date) = 2020 THEN Quantity ELSE 0 END) AS '2020',
    SUM(CASE WHEN YEAR(Date) = 2021 THEN Quantity ELSE 0 END) AS '2021',
    SUM(Quantity) AS 'Grand Total'
FROM newtable GROUP BY CategoryName ORDER BY 'Grand Total' DESC
  
```

	CategoryName	2020	2021	Grand Total
1	eBooks	1551	1572	3123
2	Training Videos	1049	1032	2081
3	Blueprints	867	751	1618
4	Drone Kits	779	736	1515
5	Drones	600	627	1227
6	Robots	577	476	1053
7	Robot Kits	548	489	1037

Row Labels	Number of Items Sold		
	Column Labels	2020	2021
eBooks		1551	1572
Training Videos		1049	1032
Blueprints		867	751
Drone Kits		779	736
Drones		600	627
Robots		577	476
Robot Kits		548	489
Grand Total		5971	5683
			11654

Grafik banyaknya item terjual dan total penjualan per bulan di masing-masing kategori pada tahun 2020 dan 2021



Pada grafik di atas, disajikan banyaknya penjualan item di tiap kategori per tahun. Kategori eBooks menjadi penjualan item terbanyak pada tahun 2020 dan 2021, sedangkan penjualan terendah tahun 2020 berasal dari kategori Robot Kits dan pada tahun 2021 berasal dari kategori Robots. Kategori eBooks menjadi kategori yang menyumbangkan total penjualan terbanyak dan total penjualan terendah berasal dari kategori Robot Kits.

Berapa banyak item terjual di tiap category pada tahun 2020 dan 2021?

SELECT

```
TOP 5 CustomerCity, COUNT(*) AS 'Number of Transaction',
FORMAT(SUM(total_price), 'C', 'en-us') AS 'Total Sales',
FORMAT(MIN(total_price), 'C', 'en-us') AS 'Minimum Sales',
FORMAT(AVG(total_price), 'C', 'en-us') AS 'Average Sales',
FORMAT(MAX(total_price), 'C', 'en-us') AS 'Maximum Sales'
FROM newtable WHERE YEAR(Date) = 2021 GROUP BY CustomerCity ORDER BY SUM(total_price) DESC
```

	CustomerCity	Number of Transaction	Total Sales	Minimum Sales	Average Sales	Maximum Sales
1	Washington	40	\$21,393.73	\$14.99	\$534.84	\$5,298.00
2	El Paso	28	\$20,259.95	\$26.97	\$723.57	\$3,596.00
3	San Diego	32	\$18,200.50	\$17.98	\$568.77	\$4,104.00
4	Phoenix	20	\$18,039.32	\$24.95	\$901.97	\$2,736.00
5	Houston	44	\$17,838.32	\$9.98	\$405.42	\$2,736.00

	Number of Transaction	Total Sales	Minimum Sales	Average of Sales	Maximum Sales	Sales by Months
Washington	40	\$21,394	\$15	\$535	\$5,298	
El Paso	28	\$20,260	\$27	\$724	\$3,596	
San Diego	32	\$18,201	\$18	\$569	\$4,104	
Phoenix	20	\$18,039	\$25	\$902	\$2,736	
Houston	44	\$17,838	\$10	\$405	\$2,736	
Grand Total	164	\$95,732	\$10	\$584	\$5,298	

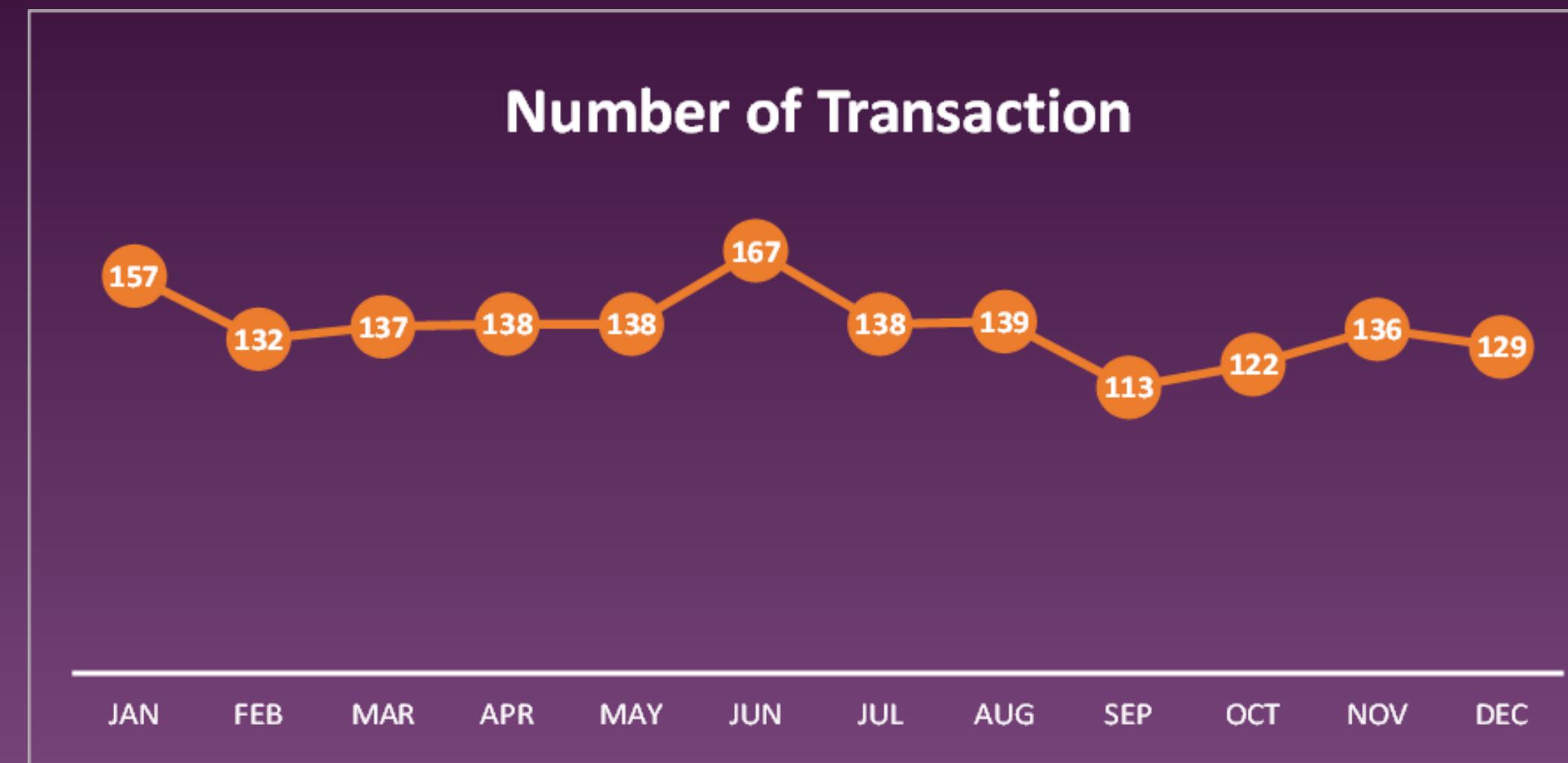
Berapa banyak transaksi di tiap bulannya pada tahun 2021?

```
SELECT  
DATENAME(mm, Date) AS Month,  
COUNT(id_invoice) AS 'Number of Transaction'  
FROM newtable WHERE YEAR(Date) = 2021  
GROUP BY DATENAME(mm, Date), MONTH(Date)  
ORDER BY MONTH(Date)
```

	Month	Number of Transaction
1	January	157
2	February	132
3	March	137
4	April	138
5	May	138
6	June	167
7	July	138
8	August	139
9	September	113
10	October	122
11	November	136
12	December	129

Row Labels	Count of id_invoice
Jan	157
Feb	132
Mar	137
Apr	138
May	138
Jun	167
Jul	138
Aug	139
Sep	113
Oct	122
Nov	136
Dec	129
Grand Total	1646

Grafik banyaknya transaksi tiap bulannya pada tahun 2021



Total transaksi pada tahun 2021 adalah **1646** kali dengan transaksi terbanyak pada bulan Juni sebanyak **167** kali.

Apa yang bisa anda usulkan untuk mempertahankan penjualan ataupun menaikkan penjualan dengan tabel transaksi detail yang sudah ada?

Dari table transaksi dan visualisasi yang telah dibuat, kita bisa melihat trend pembelian pelanggan di berbagai kota pada tahun 2020 dan 2021. Dengan begitu untuk kedepannya kita dapat menggunakan report tersebut untuk melihat potential lokasi yang bisa kita approach untuk menjadi pelanggan. Selain itu kita dapat membuat demand prediction sehingga kita dapat mengalokasikan stok produk pada suatu kota tertentu sesuai dengan demand prediction tersebut.

Virtual Internship

Completion Certification

has been presented to

Fahma Mu'jizatil Qur'ani

For successfully completing business intelligence analyst
Virtual Internship Program from **Bank Muamalat**

CEO Rakamin Academy

Andika Deni Prasetya

Head of People Development and Culture,
Bank Muamalat

Anton Hendrianto

Credential: 928661APFGIB2122022

Virtual Internship

Competencies Certification

has been presented to

Fahma Mu'jizatil Qur'ani

Credential: 928661APFGIB2122022
for able to finish all business intelligence analyst Virtual Internship Task from **Bank Muamalat**
Completed Tasks: Beginner Level (2), Intermediate Level (2), Advance Level (1)

Data Analysis

SQL Querying

Softskill

CEO Rakamin Academy

Andika Deni Prasetya

Head of People Development and Culture,
Bank Muamalat

Anton Hendrianto

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