Data Analyst Portfolio Project - SQL exploration with BigQuery

1. What is the overall trend in liquor sales in Iowa over the years covered by this dataset?

```
SELECT
EXTRACT (YEAR FROM date) AS year,
ROUND(SUM (sale_dollars),2) AS sales
FROM `bigquery-public-data.iowa_liquor_sales.sales`
GROUP BY year
ORDER BY year ASC
LIMIT 1000;
```

2. Which are the most popular liquor categories sold in Iowa?

```
SELECT
 category_name,
COUNT(*) AS num
FROM `bigquery-public-data.iowa_liquor_sales.sales`
GROUP BY category_name
ORDER BY num DESC
LIMIT 10;
```

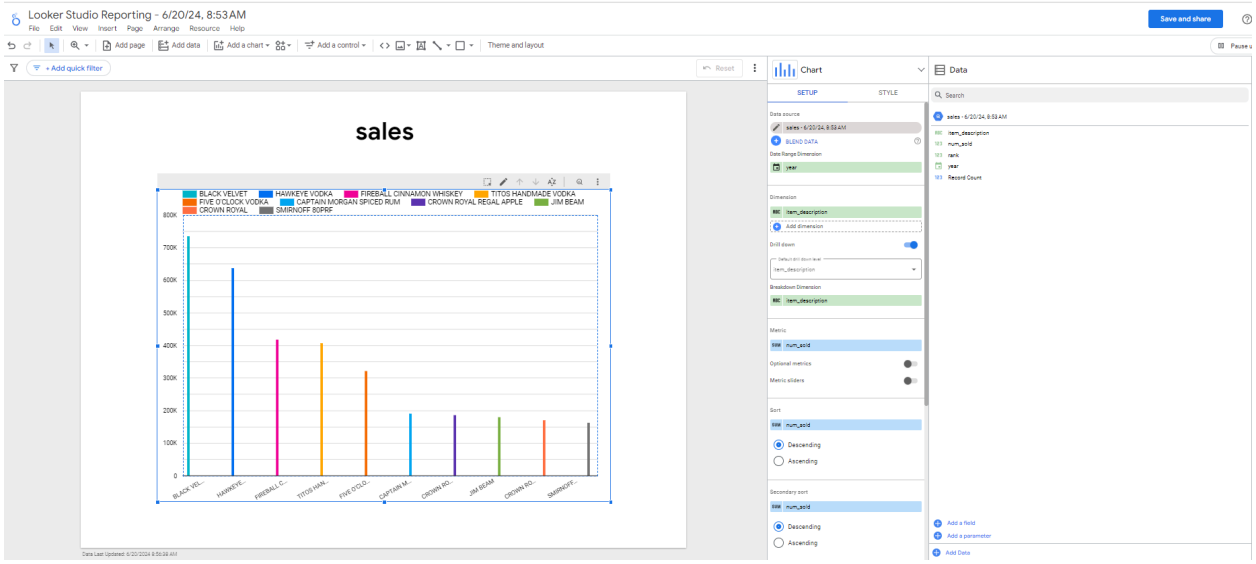
For brands

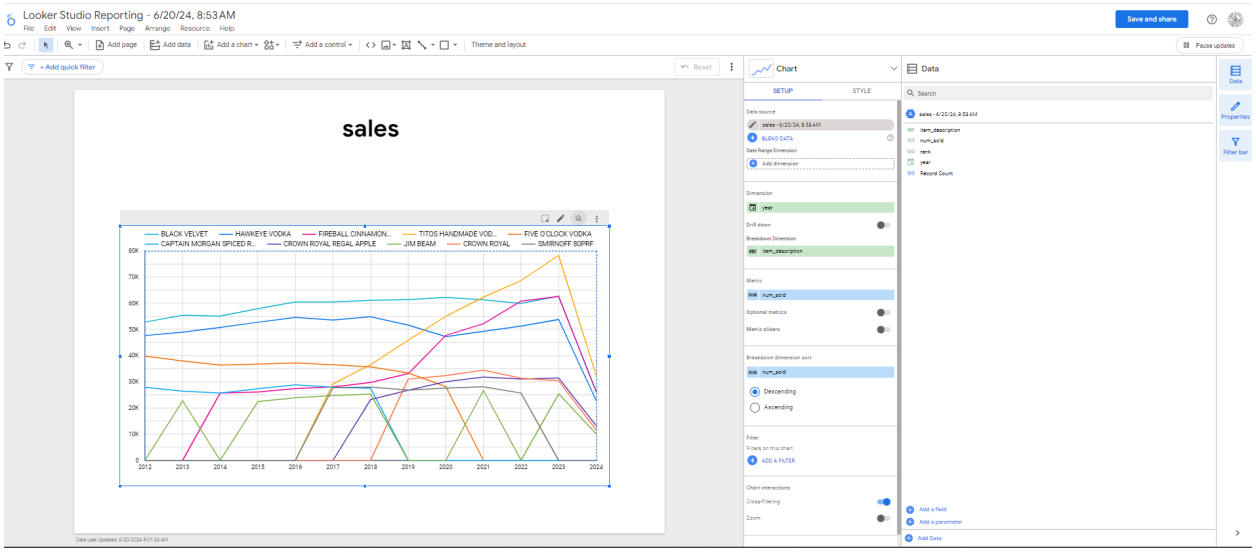
```
SELECT
item_description,
COUNT(*) AS num
FROM `bigquery-public-data.iowa_liquor_sales.sales`
GROUP BY item_description
ORDER BY num DESC
LIMIT 10;
```

3. How has the popularity of brands changed over time?

```
WITH CTE AS (
  SELECT EXTRACT(YEAR FROM date) AS year,
  item_description,
```

```
  COUNT(*) AS num_sold
  FROM `bigquery-public-data.iowa_liquor_sales.sales`
  GROUP BY year, item_description
)
SELECT *
FROM (
  SELECT*,
  DENSE_RANK()OVER(PARTITION BY year ORDER BY num_sold DESC) AS rank
  FROM CTE
)ranked
WHERE rank <=10
ORDER BY year, rank;
```





4. Are there any seasonal patterns in liquor sales?

```sql
SELECT
  EXTRACT(MONTH FROM date) AS month,
  SUM(sale_dollars) AS sales
  FROM `bigquery-public-data.iowa_liquor_sales.sales`
  GROUP BY month
  ORDER BY month ASC;
```

Query results

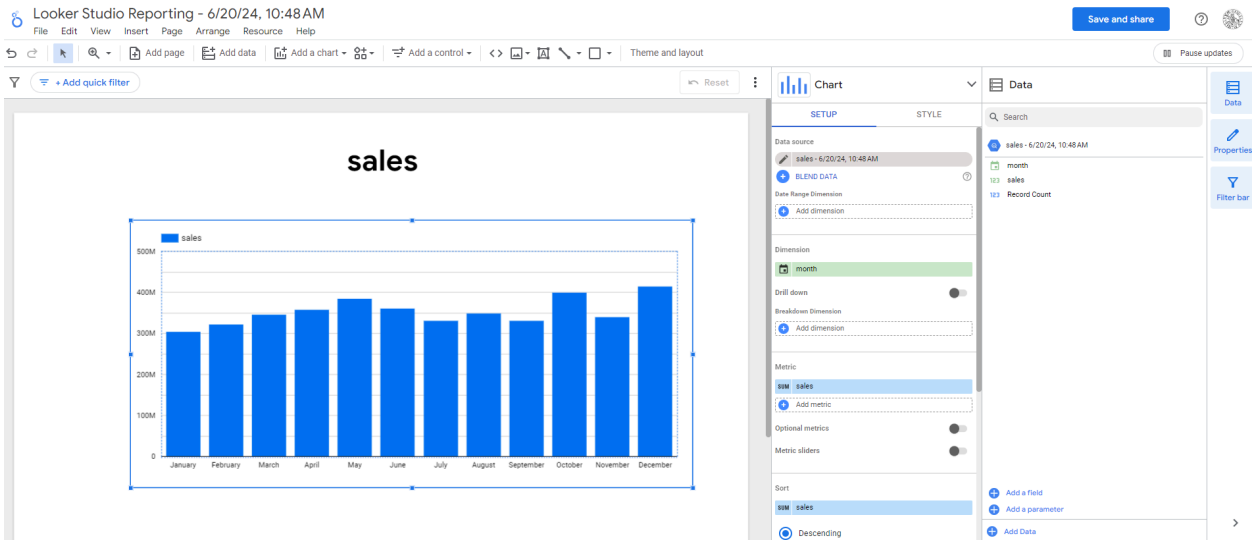
SAVE RESULTS | EXPLORE DATA

JOB INFORMATION | RESULTS | CHART | JSON | EXECUTION DETAILS | EXECUTION GRAPH

Row	month	sales
1	1	304037967.1700...
2	2	322202080.7900...
3	3	346193184.01
4	4	358284223.0499...
5	5	385723600.7499...
6	6	361236349.2300...
7	7	331128191.4900...
8	8	348808679.12
9	9	330866319.9800...
10	10	399984873.2500...
11	11	340521996.3500...
12	12	414271179.9300...

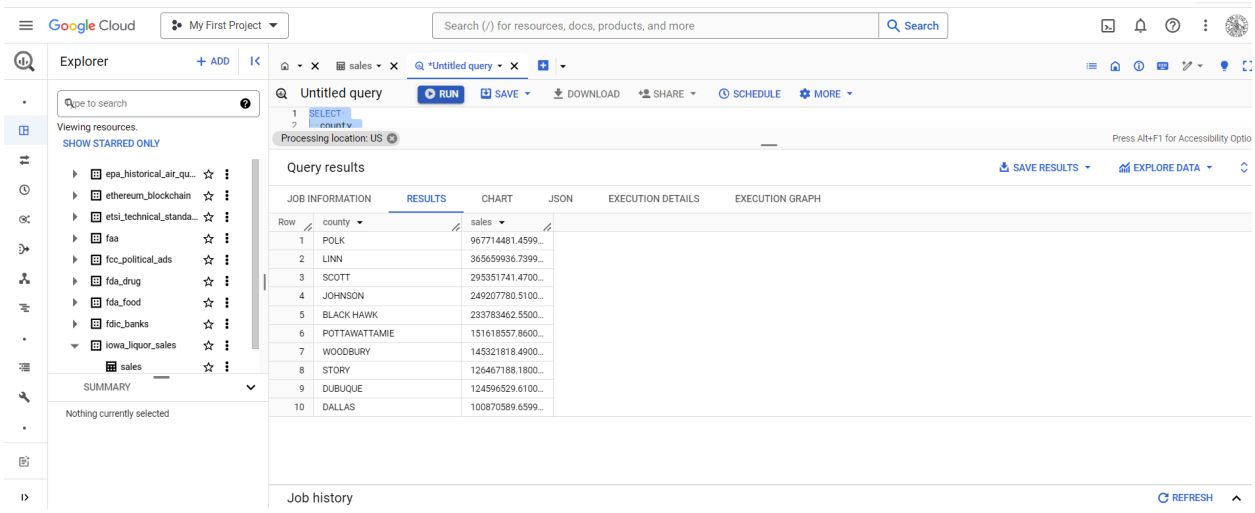
Results per page: 50 | 1 – 12 of 12

Job history | REFRESH



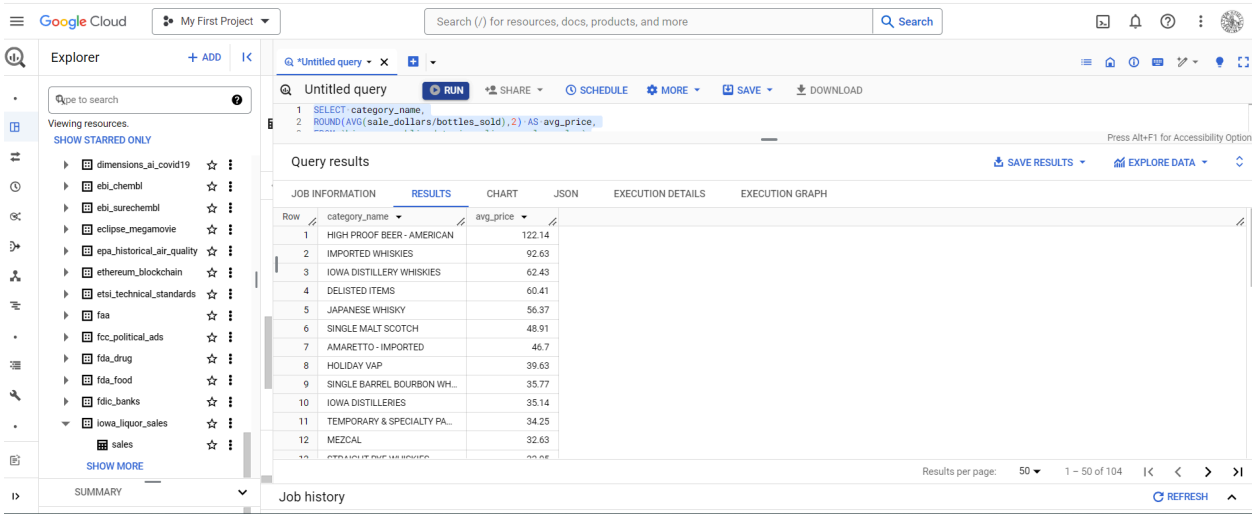
5. Which counties have the biggest sales?

```sql
SELECT
  county,
  SUM(sale_dollars) AS sales
  FROM `bigquery-public-data.iowa_liquor_sales.sales`
  GROUP BY county
  ORDER BY sales DESC
  LIMIT 10;
```



6. What is the average price of liquor by category?

```
SELECT category_name,
ROUND(AVG(sale_dollars/bottles_sold),2) AS avg_price,
FROM `bigquery-public-data.iowa_liquor_sales.sales`
WHERE bottles_sold !=0
GROUP BY category_name
ORDER BY avg_price DESC;
```

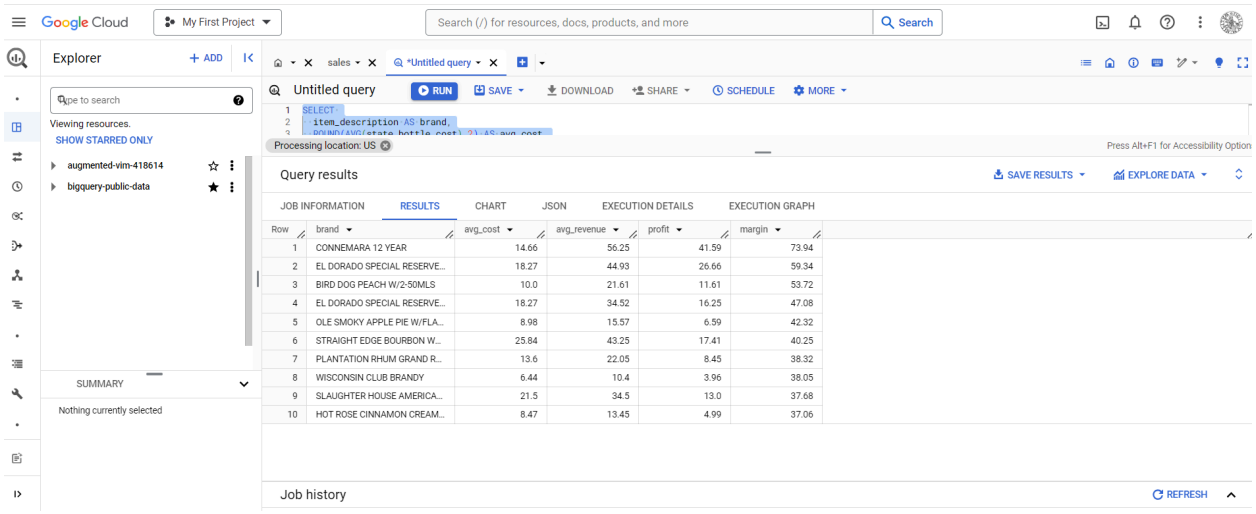


7. Which liquor brands have the highest profit margins from retailers?

```
SELECT
  item_description AS brand,
  ROUND(AVG(state_bottle_cost),2) AS avg_cost,
  ROUND(AVG(state_bottle_retail),2) AS avg_revenue,
  ROUND(AVG(state_bottle_retail) - AVG (state_bottle_cost),2) AS profit,

ROUND(((AVG(state_bottle_retail)-AVG(state_bottle_cost))/AVG(state_bottle_retail
))*100,2) AS margin
FROM `bigquery-public-data.iowa_liquor_sales.sales`
GROUP BY item_description
```

```
ORDER BY margin DESC
LIMIT 10;
```



Row	brand	avg_cost	avg_revenue	profit	margin
1	CONNEMARA 12 YEAR	14.66	56.25	41.59	73.94
2	EL DORADO SPECIAL RESERVE...	18.27	44.93	26.66	59.34
3	BIRD DOG PEACH W/2-50MLS	10.0	21.61	11.61	53.72
4	EL DORADO SPECIAL RESERVE...	18.27	34.52	16.25	47.08
5	OLE SMOKY APPLE PIE W/FLA...	8.98	15.57	6.59	42.32
6	STRAIGHT EDGE BOURBON W...	25.84	43.25	17.41	40.25
7	PLANTATION RHUM GRAND R...	13.6	22.05	8.45	38.32
8	WISCONSIN CLUB BRANDY	6.44	10.4	3.96	38.05
9	SLAUGHTER HOUSE AMERICA...	21.5	34.5	13.0	37.68
10	HOT ROSE CINNAMON CREAM...	8.47	13.45	4.99	37.06