Data Analyst — chips Analysis data

```python
import pandas as pd
# Load your merged chip data
df = pd.read_csv('merged_chip_data.csv')
# Show first few rows
print("First few rows of the data:")
print(df.head())
# Total sales by LIFESTAGE and PREMIUM_CUSTOMER
summary = df.groupby(['LIFESTAGE', 'PREMIUM_CUSTOMER'])['TOT_SALES'].sum().reset_index()
print("\nTotal sales by customer segment:")
print(summary)
# Average spend per transaction by customer segment
avg_spend = df.groupby(['LIFESTAGE', 'PREMIUM_CUSTOMER'])['TOT_SALES'].mean().reset_index()
print("\nAverage spend per transaction by segment:")
print(avg_spend)
# Total quantity of chips purchased by customer segment
qty_summary = df.groupby(['LIFESTAGE', 'PREMIUM_CUSTOMER'])['PROD_QTY'].sum().reset_index()
print("\nTotal quantity of chips purchased by segment:")
print(qty_summary)
# Top 10 most frequently purchased chip brands
top_brands = df['BRAND'].value_counts().head(10)
print("\nTop 10 most purchased brands:")
print(top_brands)
```

Output:

First few rows of the data:

```
DATE  STORE_NBR  LYLTY_CARD_NBR  TXN_ID  PROD_NBR ... TOT_SALES  PACK_SIZE  BRAND         LIFESTAGE  PREMIUM_CUSTOMER
```

		DATE	STORE_NBR	LYLTY_CARD_NBR	TXN_ID	PROD_NBR	...	TOT_SALES	PACK_SIZE	BRAND	LIFESTAGE	PREMIUM_CUSTOMER
1.	0	2018-10-17	1	1000	1	5	...	6.0	175.0	Natural	YOUNG SINGLES/COUPLES	Premium
2.	1	2019-05-14	1	1307	348	66	...	6.3	175.0	CCs	MIDAGE SINGLES/COUPLES	Budget
3.	2	2019-05-20	1	1343	383	61	...	2.9	170.0	Smiths	MIDAGE SINGLES/COUPLES	Budget
4.	3	2018-08-17	2	2373	974	69	...	15.0	175.0	Smiths	MIDAGE SINGLES/COUPLES	Budget
5.	4	2018-08-18	2	2426	1038	108	...	13.8	150.0	Kettle	MIDAGE SINGLES/COUPLES	Budget

[5 rows x 12 columns]

Total sales by customer segment:

	LIFESTAGE	PREMIUM_CUSTOMER	TOT_SALES
0	MIDAGE SINGLES/COUPLES	Budget	35514.80
1	MIDAGE SINGLES/COUPLES	Mainstream	90803.85
2	MIDAGE SINGLES/COUPLES	Premium	58432.65
3	NEW FAMILIES	Budget	21928.45
4	NEW FAMILIES	Mainstream	17013.90
5	NEW FAMILIES	Premium	11491.10
6	OLDER FAMILIES	Budget	168363.25
7	OLDER FAMILIES	Mainstream	103445.55
8	OLDER FAMILIES	Premium	81958.40
9	OLDER SINGLES/COUPLES	Budget	136769.80
10	OLDER SINGLES/COUPLES	Mainstream	133393.80
11	OLDER SINGLES/COUPLES	Premium	132263.15
12	RETIREES	Budget	113147.80
13	RETIREES	Mainstream	155677.05
14	RETIREES	Premium	97646.05
15	YOUNG FAMILIES	Budget	139345.85
16	YOUNG FAMILIES	Mainstream	92788.75
17	YOUNG FAMILIES	Premium	84025.50
18	YOUNG SINGLES/COUPLES	Budget	61141.60
19	YOUNG SINGLES/COUPLES	Mainstream	157621.60
20	YOUNG SINGLES/COUPLES	Premium	41642.10

Average spend per transaction by segment:

	LIFESTAGE	PREMIUM_CUSTOMER	TOT_SALES
0	MIDAGE SINGLES/COUPLES	Budget	7.074661
1	MIDAGE SINGLES/COUPLES	Mainstream	7.647284
2	MIDAGE SINGLES/COUPLES	Premium	7.112056
3	NEW FAMILIES	Budget	7.297321
4	NEW FAMILIES	Mainstream	7.317806
5	NEW FAMILIES	Premium	7.231655
6	OLDER FAMILIES	Budget	7.269570
7	OLDER FAMILIES	Mainstream	7.262395
8	OLDER FAMILIES	Premium	7.322945

9   OLDER SINGLES/COUPLES   Budget 7.430315

10 OLDER SINGLES/COUPLES   Mainstream 7.282116

11 OLDER SINGLES/COUPLES   Premium 7.449766

12   RETIREES   Budget 7.443445

13   RETIREES   Mainstream 7.252262

14   RETIREES   Premium 7.456174

15   YOUNG FAMILIES   Budget 7.287201

16   YOUNG FAMILIES   Mainstream 7.189025

17   YOUNG FAMILIES   Premium 7.266756

18 YOUNG SINGLES/COUPLES   Budget 6.615624

19 YOUNG SINGLES/COUPLES   Mainstream 7.558339

20 YOUNG SINGLES/COUPLES   Premium 6.629852

Total quantity of chips purchased by segment:

          LIFESTAGE PREMIUM_CUSTOMER PROD_QTY

0 MIDAGE SINGLES/COUPLES   Budget   9496

1 MIDAGE SINGLES/COUPLES   Mainstream   22699

2 MIDAGE SINGLES/COUPLES   Premium   15526

3   NEW FAMILIES   Budget   5571

4   NEW FAMILIES   Mainstream   4319

5   NEW FAMILIES   Premium   2957

6   OLDER FAMILIES   Budget   45065

7   OLDER FAMILIES   Mainstream   27756

8   OLDER FAMILIES   Premium   22171

9   OLDER SINGLES/COUPLES   Budget   35220

10 OLDER SINGLES/COUPLES   Mainstream   34997

11 OLDER SINGLES/COUPLES   Premium   33986

12   RETIREES   Budget   28764

13   RETIREES   Mainstream   40518

14   RETIREES   Premium   24884

15   YOUNG FAMILIES   Budget   37111

16   YOUNG FAMILIES   Mainstream   25044

17   YOUNG FAMILIES   Premium   22406

18 YOUNG SINGLES/COUPLES   Budget   16671

19 YOUNG SINGLES/COUPLES   Mainstream   38632

Top 10 most purchased brands:

BRAND

Kettle   41288

Smiths   28860

Pringles   25102

Doritos   24962

Thins   14075

RRD   11894

Infuzions   11057

WW   10320

Cobs   9693

Tostitos   9471

Based on the analysis of customer purchasing behaviour, the highest total chip sales come from **Older Families (Budget)**and **Young Singles/Couples (Mainstream)**. These segments also purchase chips in large quantities, making them key drivers of category revenue. While **Premium** customers spend slightly more per transaction on average, **Mainstream**shoppers dominate in terms of both volume and overall sales. The most purchased brands are **Kettle**, **Smiths**, and **Pringles**, indicating strong brand loyalty in these groups. We recommend focusing promotions and targeted marketing on **Older Families and Young Singles/Couples**, especially in the mainstream segment. Additionally, stocking larger pack sizes from top-selling brands could boost volume sales. Premium customers may respond well to upselling and bundle offers on high-end brands.