Marketing Campaigns

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The Content

- **problem statement**
- **Marketing Strategy Impact**
- **Display tables and graphics**
- **Steps to solve the problem**

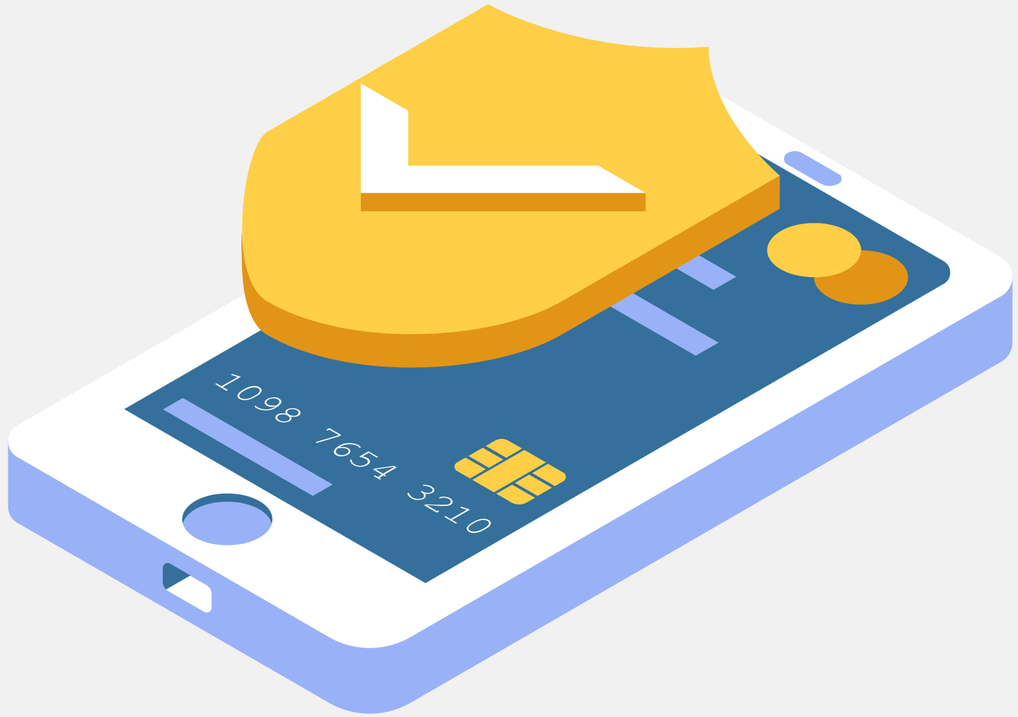
problem statment

A company wants to obtain an in-depth understanding of its sales so that it can make investment decisions and determine which country generates the highest revenues.

We will analyze the company's sales data and help the company make sound decisions

Marketing Strategy Impact

enables you to determine the most productive marketing channels and the overall investment needed to drive company revenue goals



```
df
```

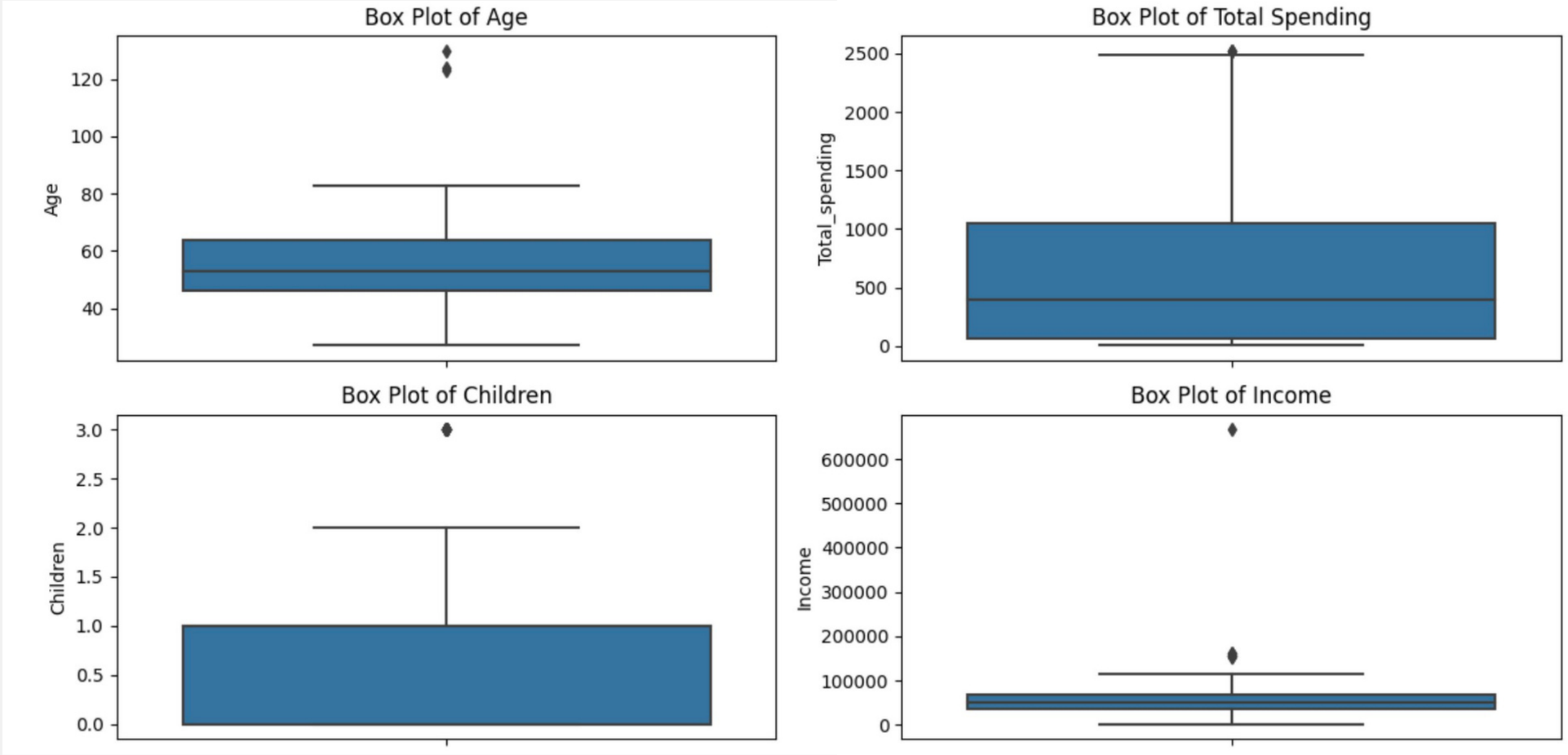
	ID	Year_Birth	Education	Marital_Status	Income	Kidhome	Teenhome	Dt_Customer	Recency	MntWines	...	NumStorePurchases	I
0	1826	1970	Graduation	Alone	84835.0	0	0	6/16/14	0	189	...	6	
1	1	1961	Graduation	Alone	57091.0	0	0	6/15/14	0	464	...	7	
2	10476	1958	Graduation	couple	67267.0	0	1	5/13/14	0	134	...	5	
3	1386	1967	Graduation	couple	32474.0	1	1	5/11/14	0	10	...	2	
4	5371	1989	Graduation	Alone	21474.0	1	0	4/8/14	0	6	...	2	
...	...	...	...	...	...	...	...	...	...	...	...	...	
2235	10142	1976	PhD	Alone	66476.0	0	1	3/7/13	99	372	...	11	
2236	5263	1977	2n Cycle	couple	31056.0	1	0	1/22/13	99	5	...	3	
2237	22	1976	Graduation	Alone	46310.0	1	0	12/3/12	99	185	...	5	
2238	528	1978	Graduation	couple	65819.0	0	0	11/29/12	99	267	...	10	
2239	4070	1969	PhD	couple	94871.0	0	2	9/1/12	99	169	...	4	

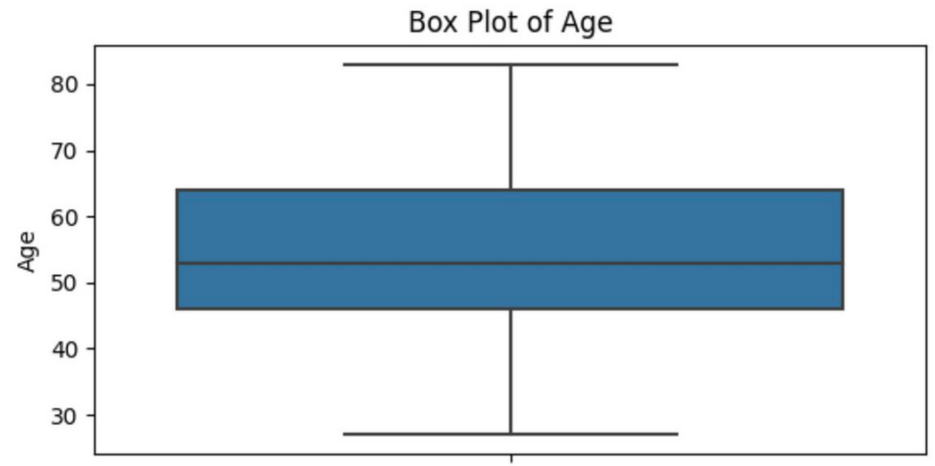
2240 rows × 28 columns

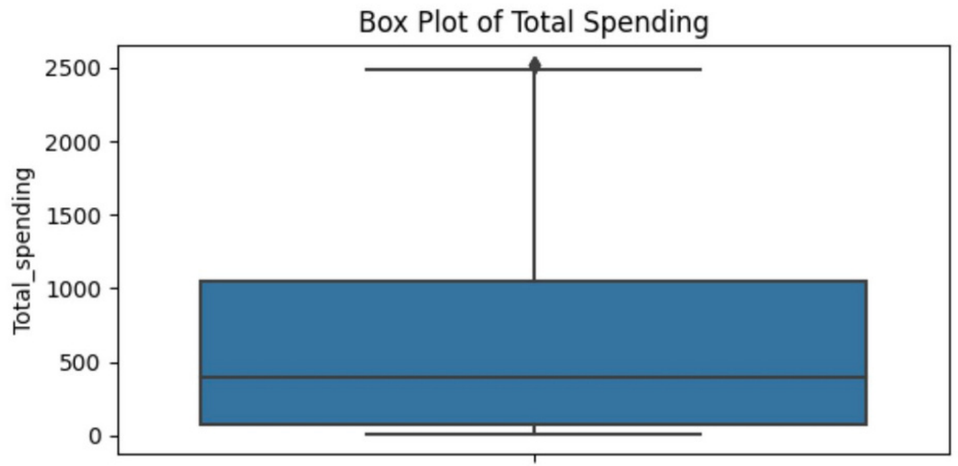
```
df.isnull(). sum()
```

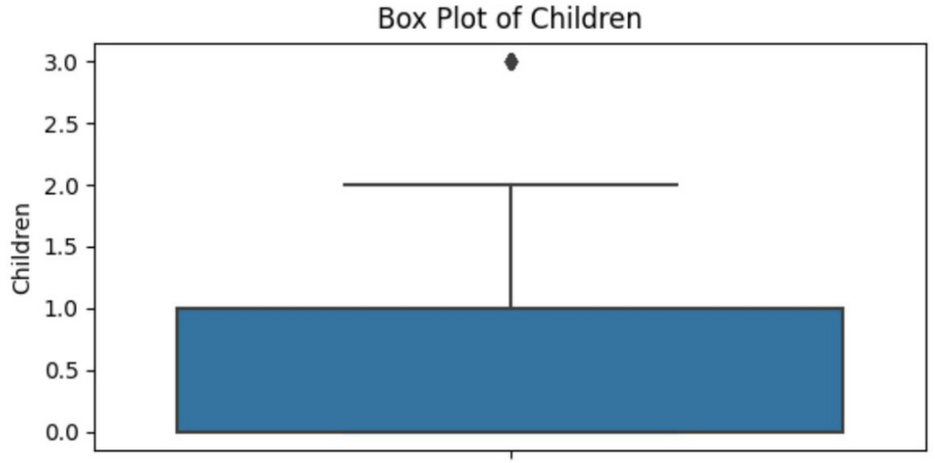
```
ID                     0
Year_Birth             0
Education              0
Marital_Status         0
Income                 0
Kidhome                0
Teenhome               0
Dt_Customer            0
Recency                0
MntWines               0
MntFruits              0
MntMeatProducts        0
MntFishProducts        0
MntSweetProducts       0
MntGoldProds           0
NumDealsPurchases      0
NumWebPurchases        0
NumCatalogPurchases    0
NumStorePurchases      0
NumWebVisitsMonth      0
AcceptedCmp3           0
AcceptedCmp4           0
AcceptedCmp5           0
AcceptedCmp1           0
AcceptedCmp2           0
Response               0
Complain               0
Country                0
dtype: int64
```

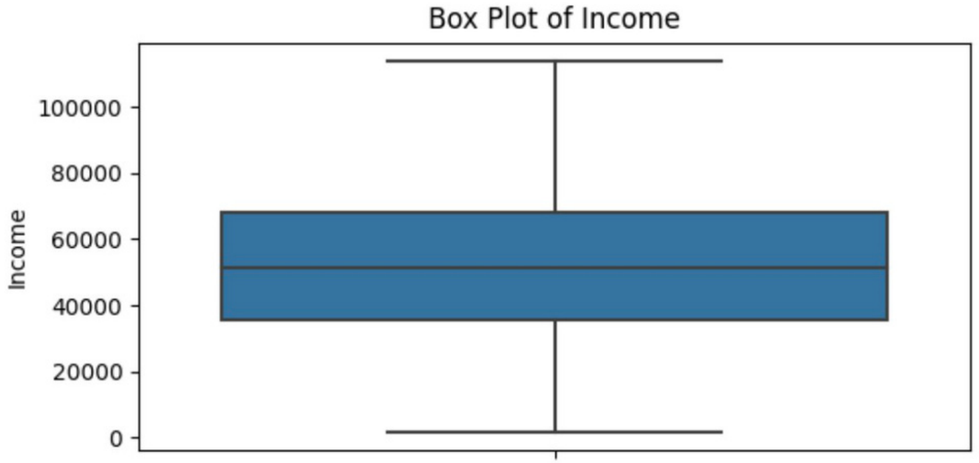
Create box plots and histograms to understand the distributions and outliers. Perform outlier treatment.

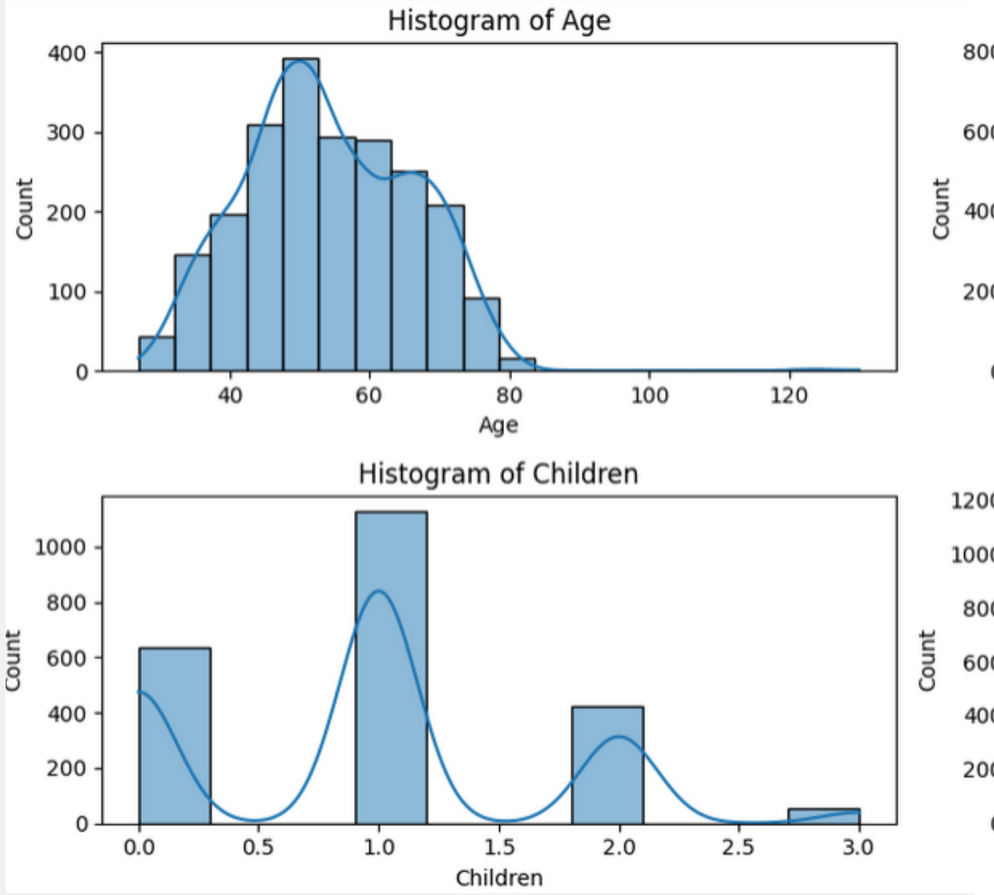


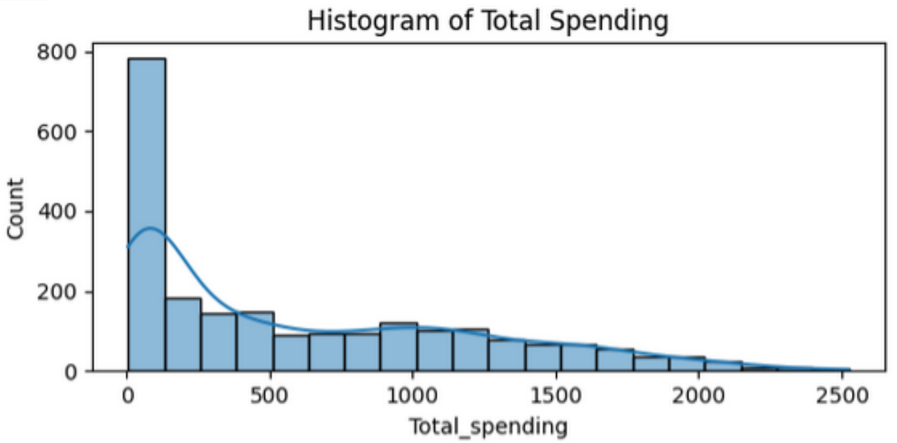

Box Plot of Age
Age
80
70
60
50
40
30


Box Plot of Total Spending
Total_spending
2500
2000
1500
1000
500
0

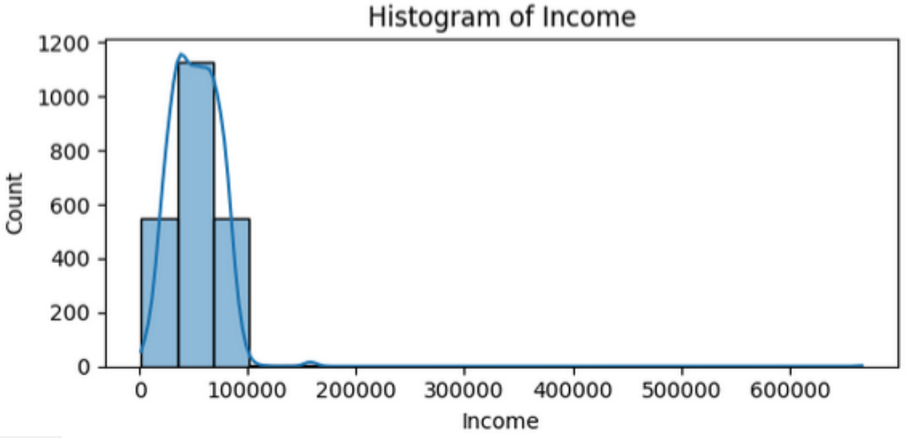

Box Plot of Children
Children
3.0
2.5
2.0
1.5
1.0
0.5
0.0


Box Plot of Income
Income
100000
80000
60000
40000
20000
0


Histogram of Age
Count
Age
0
100
200
300
400
40
60
80
100
120

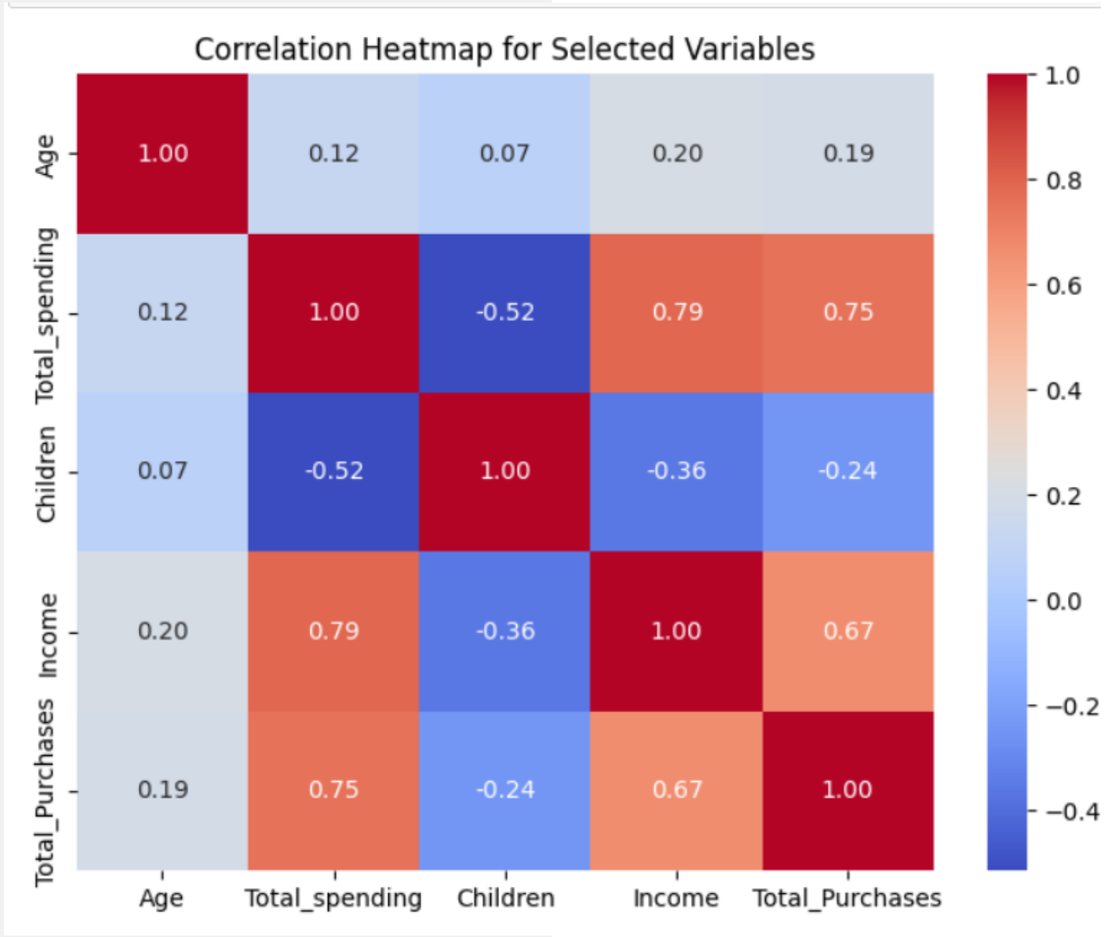

Histogram of Total Spending
Count
Total_spending
0
200
400
600
800
0
500
1000
1500
2000
2500

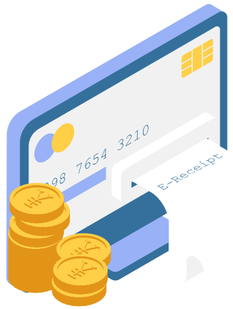
Histogram of Children
Count
Children
0
200
400
600
800
1000
0.0
0.5
1.0
1.5
2.0
2.5
3.0


Histogram of Income
Count
Income
0
200
400
600
800
1000
1200
0
100000
200000
300000
400000
500000
600000

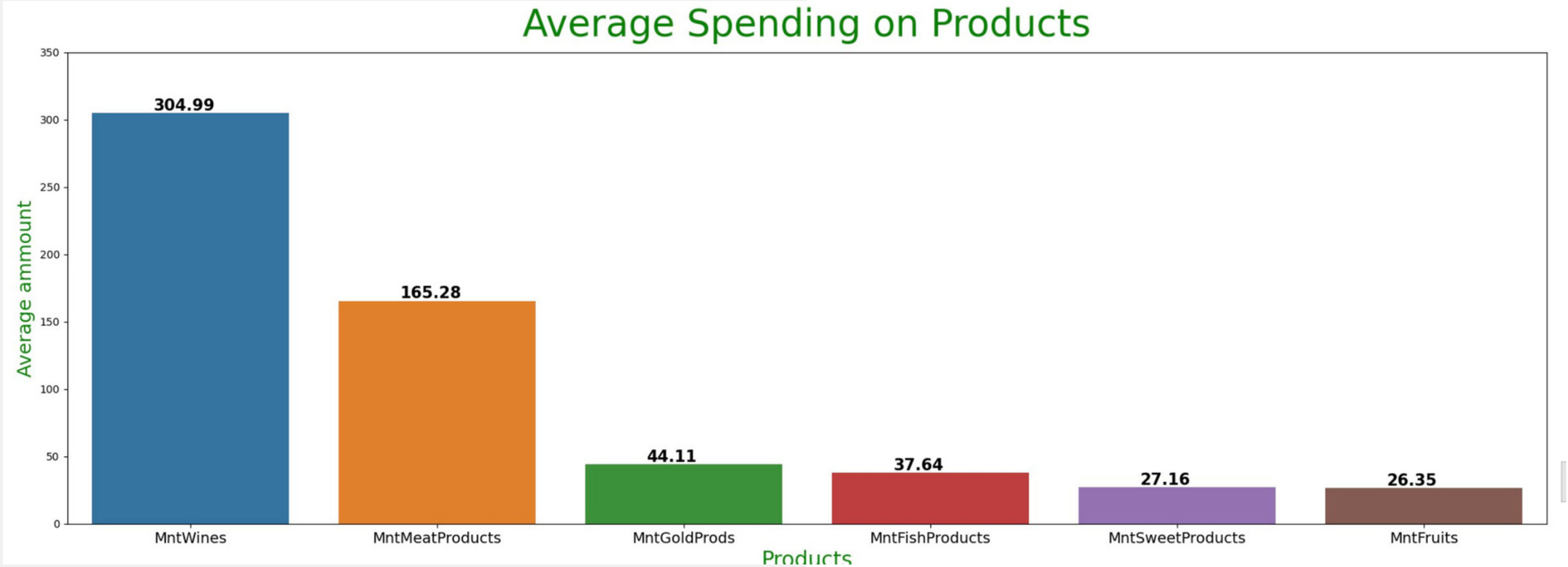

Due date

Create a heatmap to showcase the correlation between different pairs of variables.

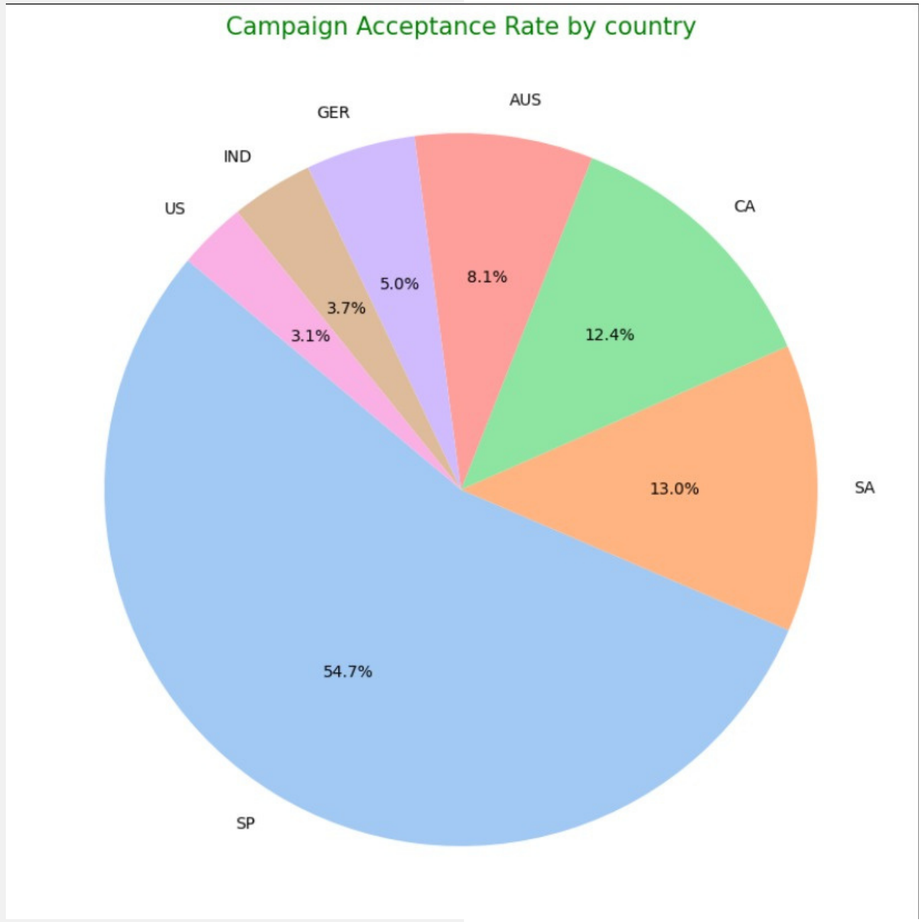




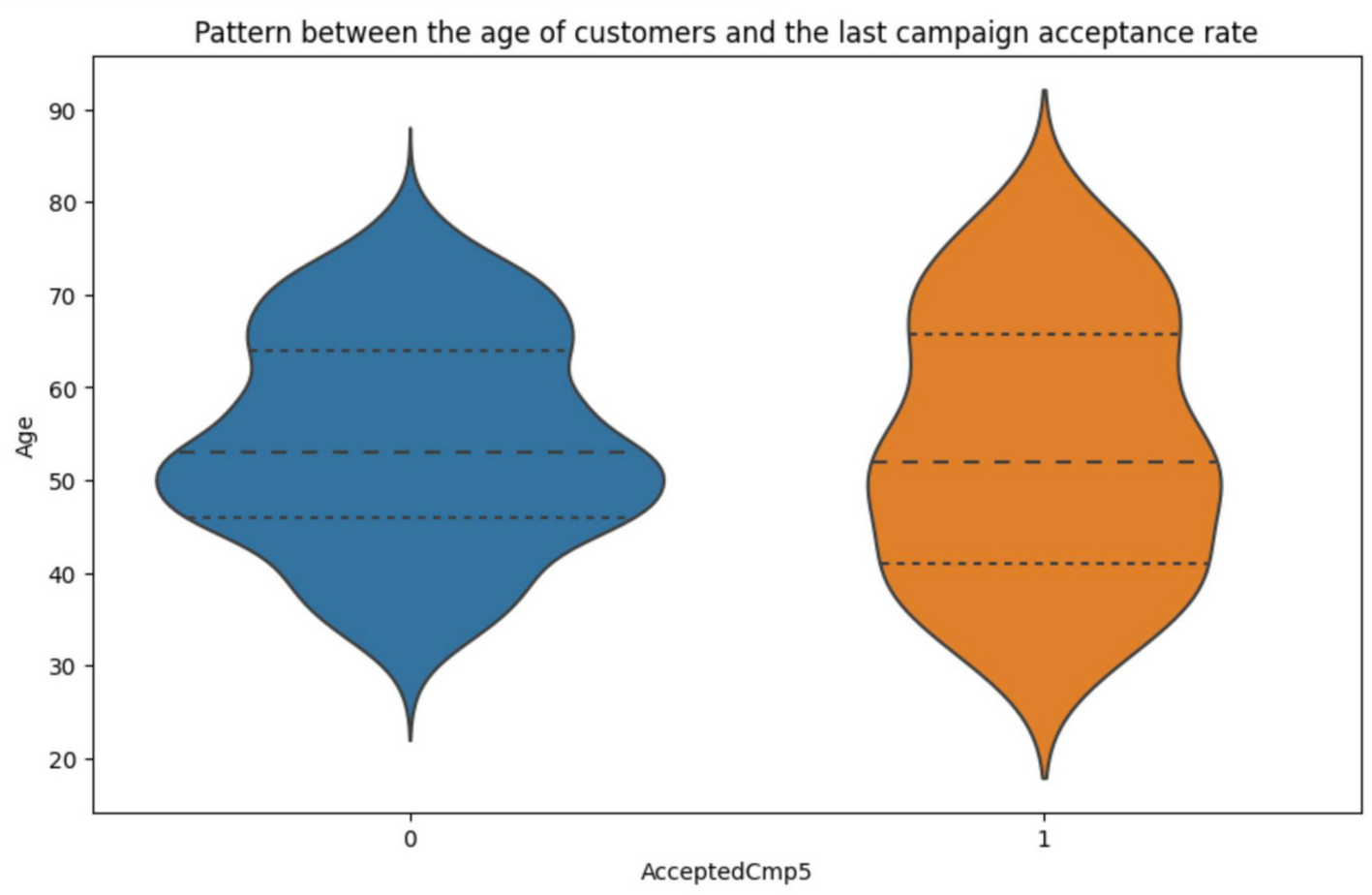
Which products are performing the best, and which are performing the least in terms of revenue?



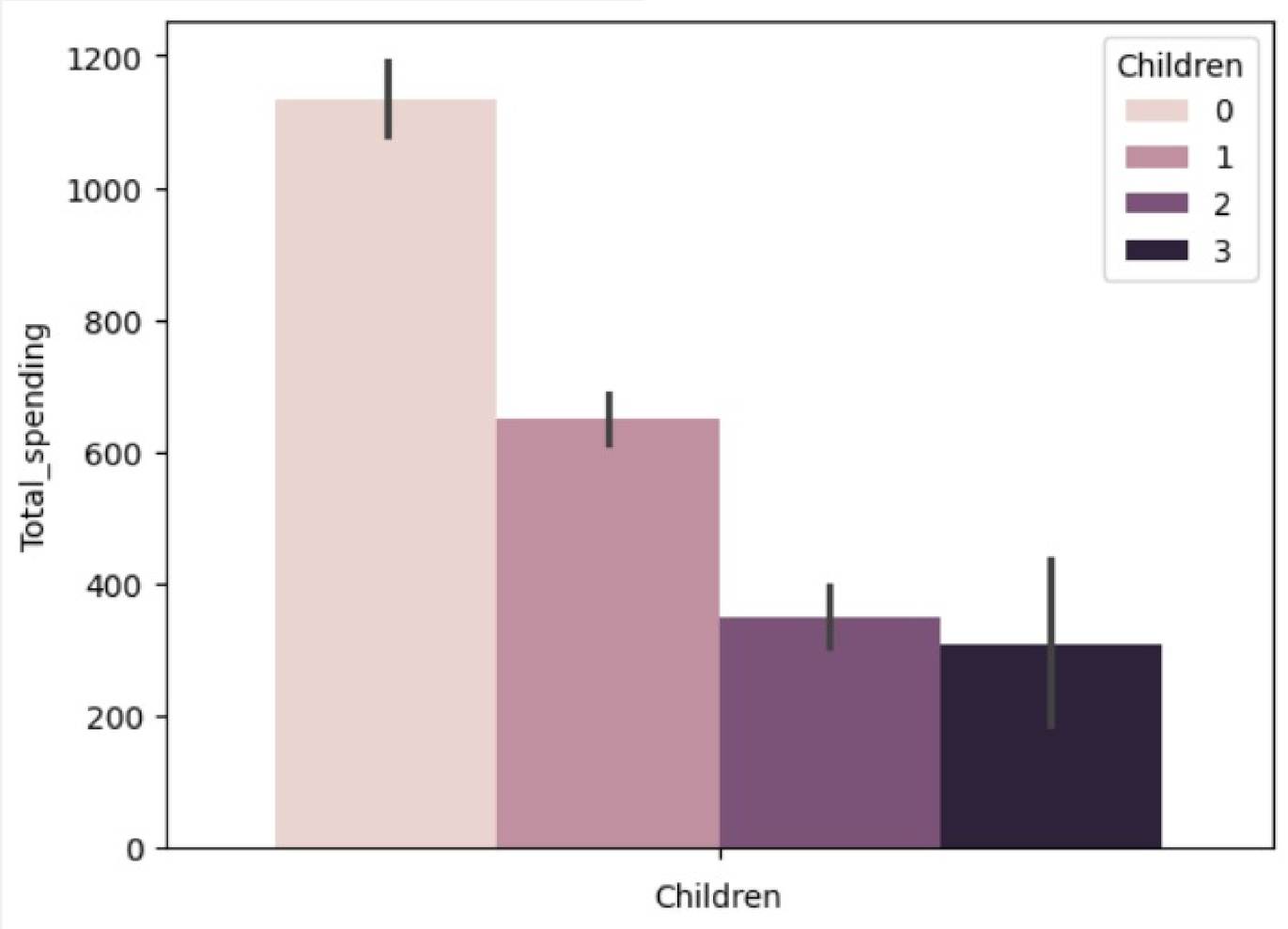
Which Country has the greatest number of customers who accepted the last campaign?



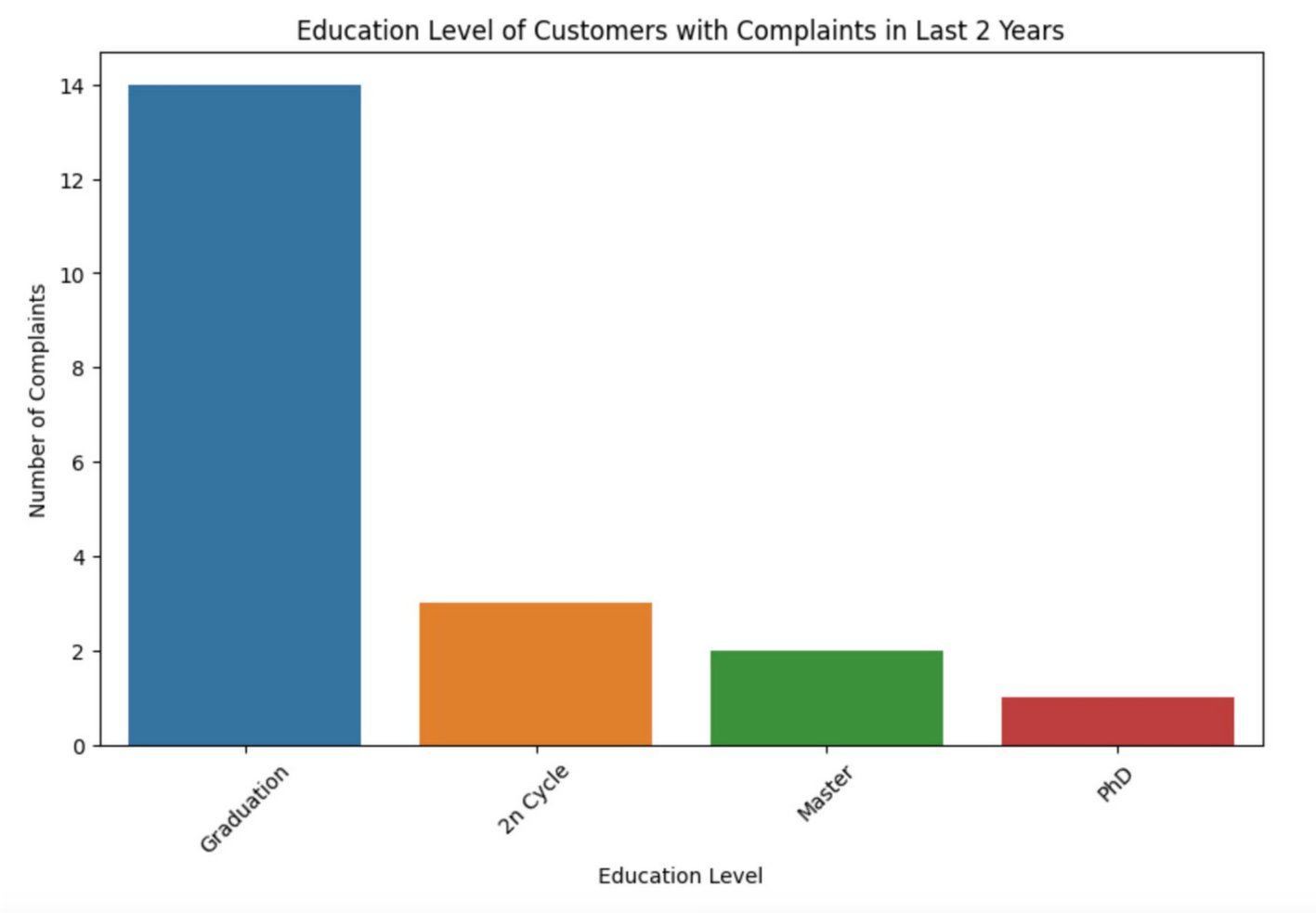
Is there any pattern between the age of customers and the last campaign acceptance rate?



Do you see any pattern in the no. of children at home and total spend?



Education background of the customers who complained in the last 2 years



Steps to solve the Project

✓	Step 1	Collect data and verify its accuracy
✓	Step 2	Clean the data and make sure it is not there Null
✓	Step 3	Create box plots and histograms to understand the distributions and outliers
✓	Step 4	we Use ordinal encoding and one hot encoding according to different types of categorical variables.
✓	Step 5	Create a heatmap to showcase the correlation between different pairs of variables.
✓	Step 6	Test the hypotheses
✓	Step 7	Ensure that the requirements are correct
✓	Step 8	Create a presentation

Do you have any questions?

thank you !