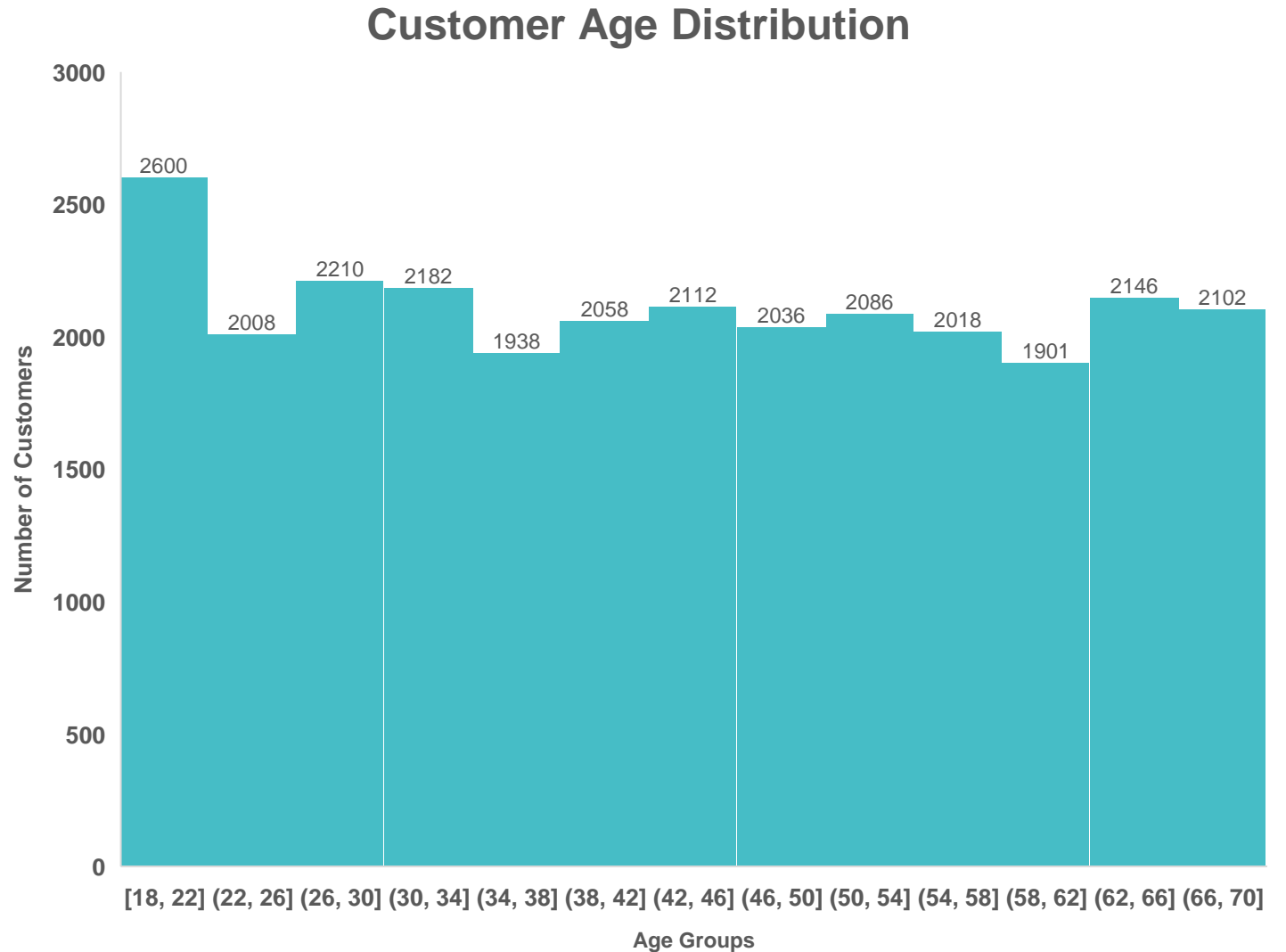# Customer Demographics and Purchase Behaviour

BADM – Project 2
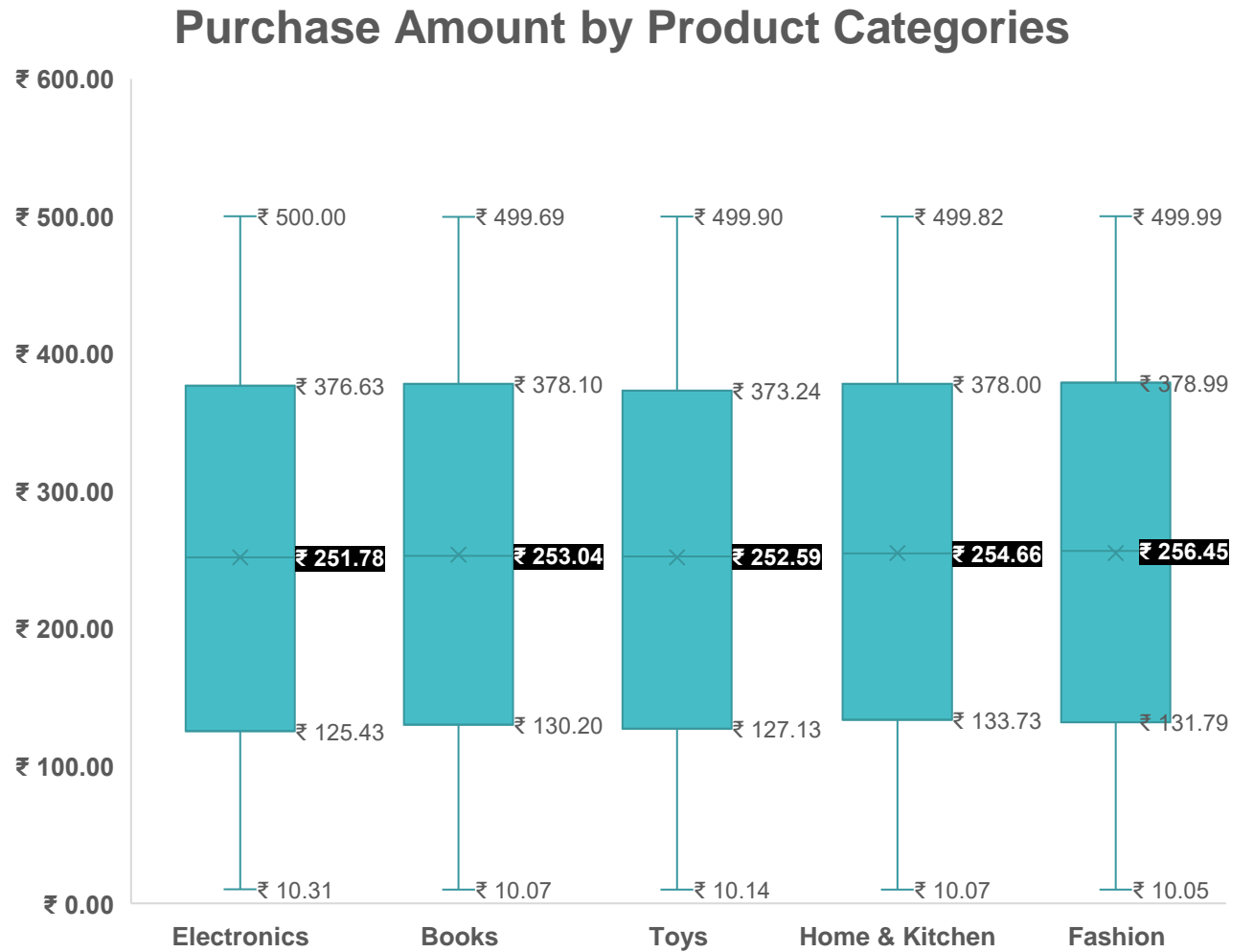
Task 2

Age Distribution Histogram

- Grouped ages into bins and created the histogram

- As highest, 2600 customers are from the age group 18 to 22

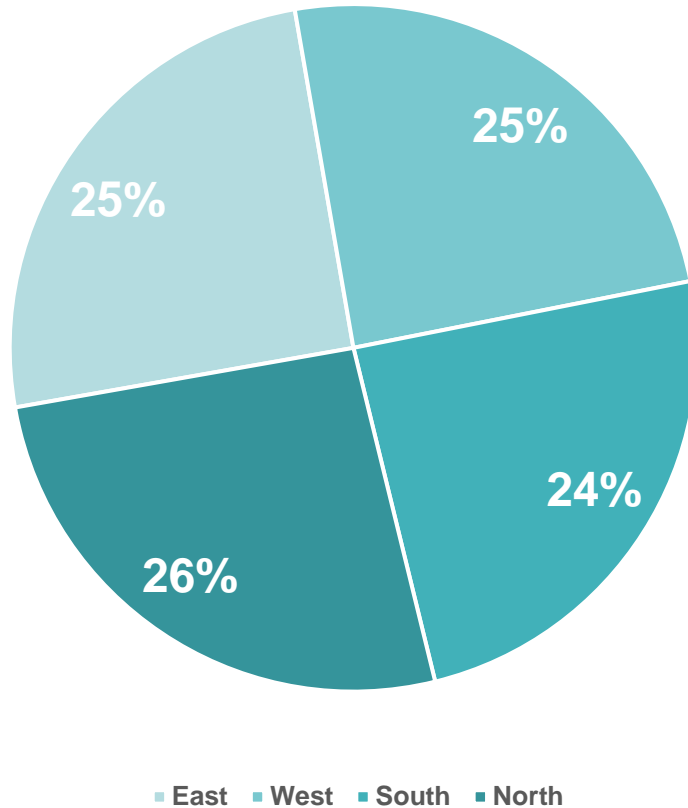- As lowest, 1901 customers are from age group 58 to 62

Customer Age Distribution

Task 3

Box Plot for Purchase Amount

- Created a box plot with product categories by purchase amount

- Projected the median purchase amount for each product categories

Purchase Amount by Product Categories

	Electronics	Books	Toys	Home & Kitchen	Fashion
Max	₹ 500.00	₹ 499.69	₹ 499.90	₹ 499.82	₹ 499.99
Q3	₹ 376.63	₹ 378.10	₹ 373.24	₹ 378.00	₹ 378.99
Median	₹ 251.78	₹ 253.04	₹ 252.59	₹ 254.66	₹ 256.45
Q1	₹ 125.43	₹ 130.20	₹ 127.13	₹ 133.73	₹ 131.79
Min	₹ 10.31	₹ 10.07	₹ 10.14	₹ 10.07	₹ 10.05

Customers % by Region

25%
25%
24%
26%

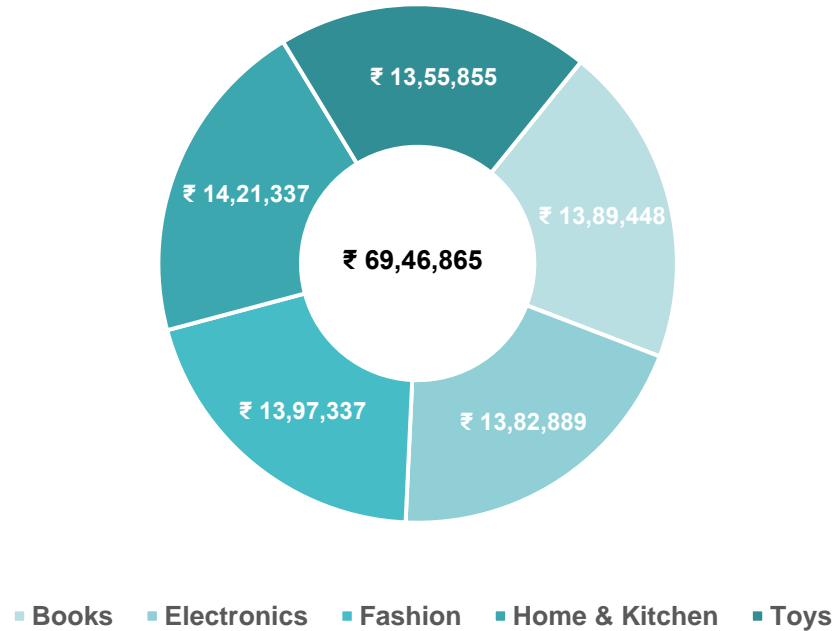■ East ■ West ■ South ■ North

Task 4

Pie Chart for Customer Distribution

- Created a pie chart to represent the customer distribution in each region

- North region has the highest customer base with 26% contribution

Task 5

Revenue by Category

₹ 13,55,855	
₹ 14,21,337	₹ 13,89,448
₹ 69,46,865	
₹ 13,97,337	₹ 13,82,889

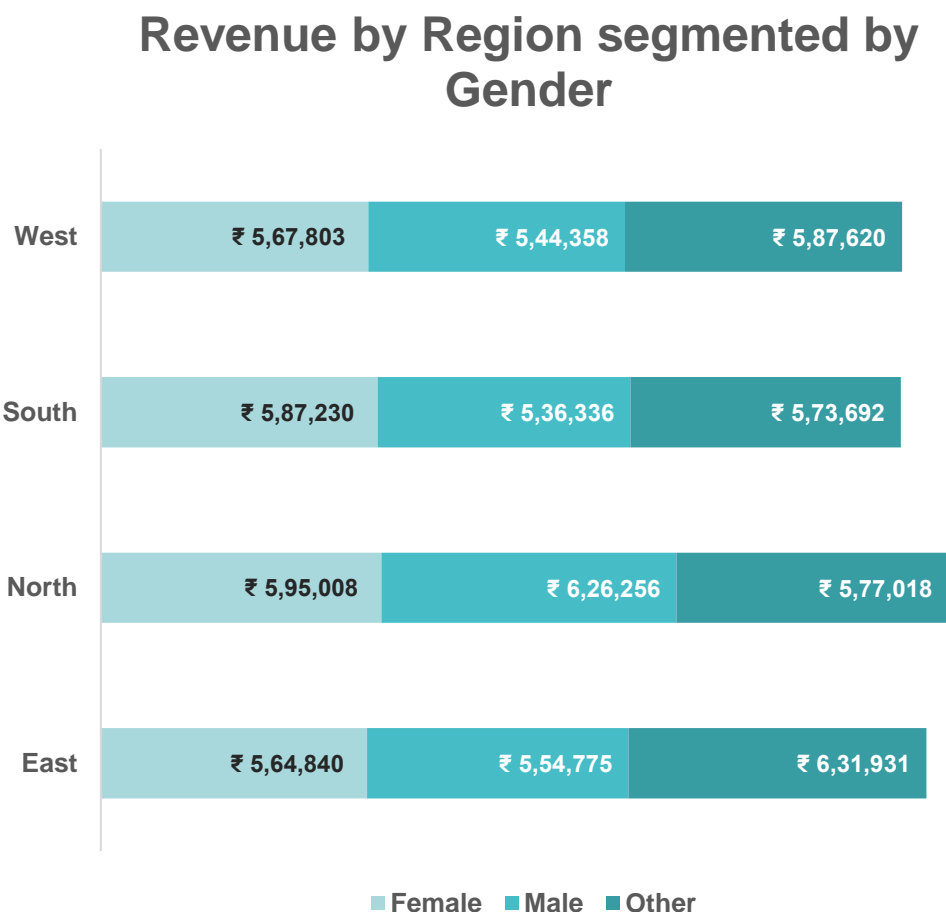■ Books   ■ Electronics   ■ Fashion   ■ Home & Kitchen   ■ Toys

Donut Chart for Product Revenue Contribution

- Created a donut chart to visualize the revenue contributed by each product categories

- The category Home & Kitchen has contributed the highest revenue across all product categories
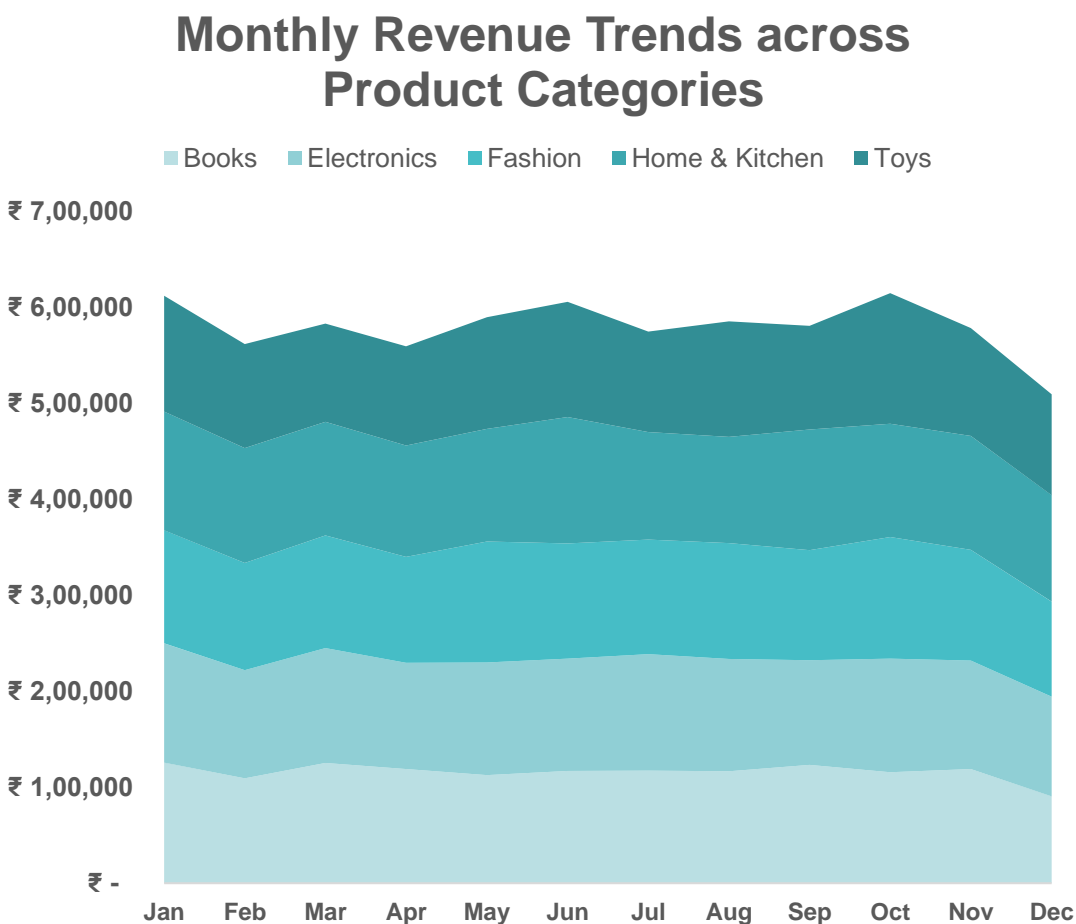
Task 6

Stacked Bar plot for Regional Revenue by Gender

Revenue by Region segmented by Gender

Region	Female	Male	Other
West	₹ 5,67,803	₹ 5,44,358	₹ 5,87,620
South	₹ 5,87,230	₹ 5,36,336	₹ 5,73,692
North	₹ 5,95,008	₹ 6,26,256	₹ 5,77,018
East	₹ 5,64,840	₹ 5,54,775	₹ 6,31,931

■ Female ■ Male ■ Other

Task 8

Donut Chart for Product Revenue Contribution

Monthly Revenue Trends across Product Categories

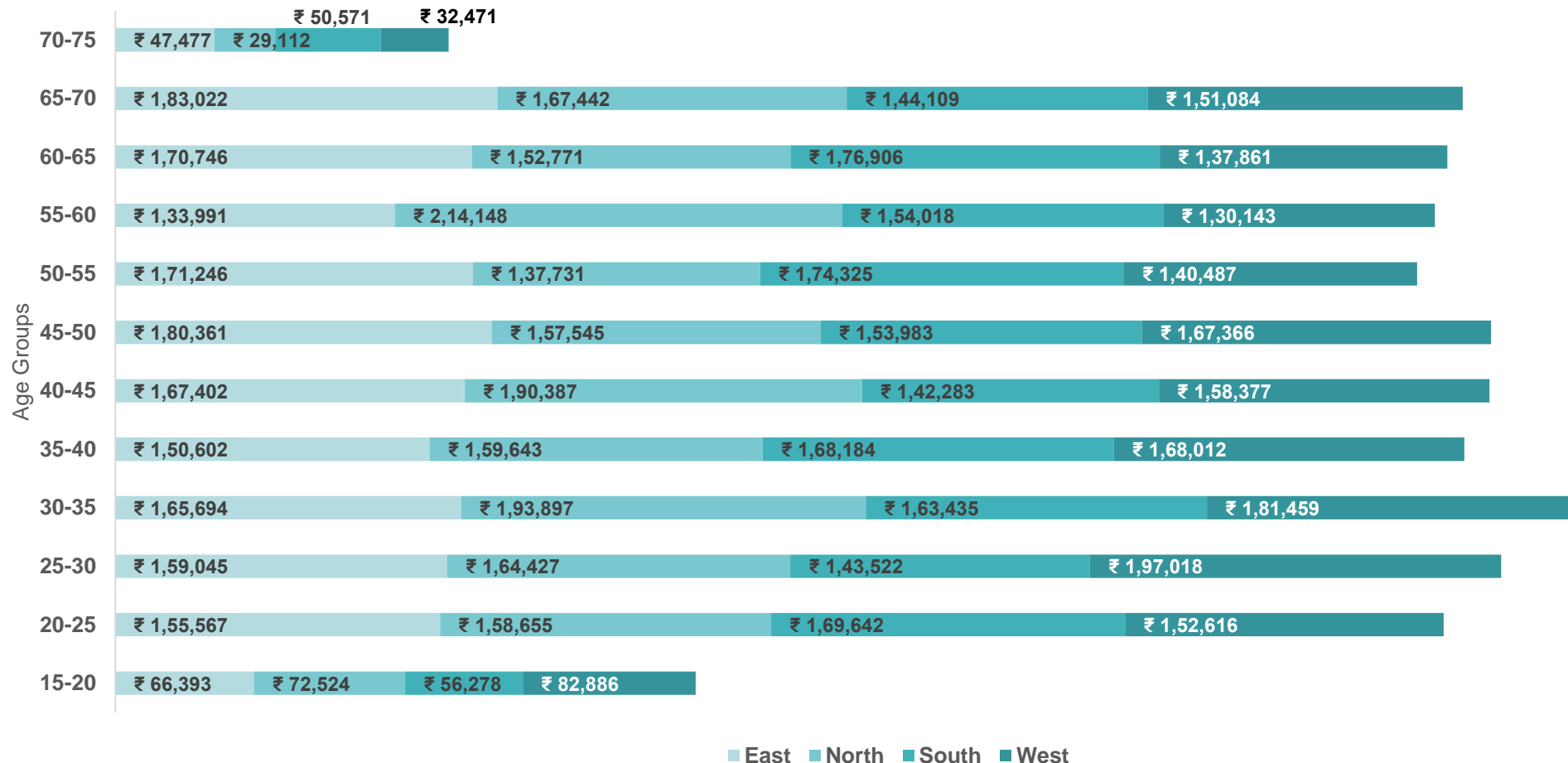■ Books ■ Electronics ■ Fashion ■ Home & Kitchen ■ Toys

Task 7

Relative Stacked Bar Plot for Age Groups

Visualized the proportion of purchases made by different age groups in each Region

Purchase by Age Groups across Region

Age Groups	East	North	South	West
70-75	₹ 47,477	₹ 29,112	₹ 50,571	₹ 32,471
65-70	₹ 1,83,022	₹ 1,67,442	₹ 1,44,109	₹ 1,51,084
60-65	₹ 1,70,746	₹ 1,52,771	₹ 1,76,906	₹ 1,37,861
55-60	₹ 1,33,991	₹ 2,14,148	₹ 1,54,018	₹ 1,30,143
50-55	₹ 1,71,246	₹ 1,37,731	₹ 1,74,325	₹ 1,40,487
45-50	₹ 1,80,361	₹ 1,57,545	₹ 1,53,983	₹ 1,67,366
40-45	₹ 1,67,402	₹ 1,90,387	₹ 1,42,283	₹ 1,58,377
35-40	₹ 1,50,602	₹ 1,59,643	₹ 1,68,184	₹ 1,68,012
30-35	₹ 1,65,694	₹ 1,93,897	₹ 1,63,435	₹ 1,81,459
25-30	₹ 1,59,045	₹ 1,64,427	₹ 1,43,522	₹ 1,97,018
20-25	₹ 1,55,567	₹ 1,58,655	₹ 1,69,642	₹ 1,52,616
15-20	₹ 66,393	₹ 72,524	₹ 56,278	₹ 82,886

East North South West

Task 9

Scatter Plot for Age vs. Purchase Amount

- Explored the relationship between Age and Purchase Amount

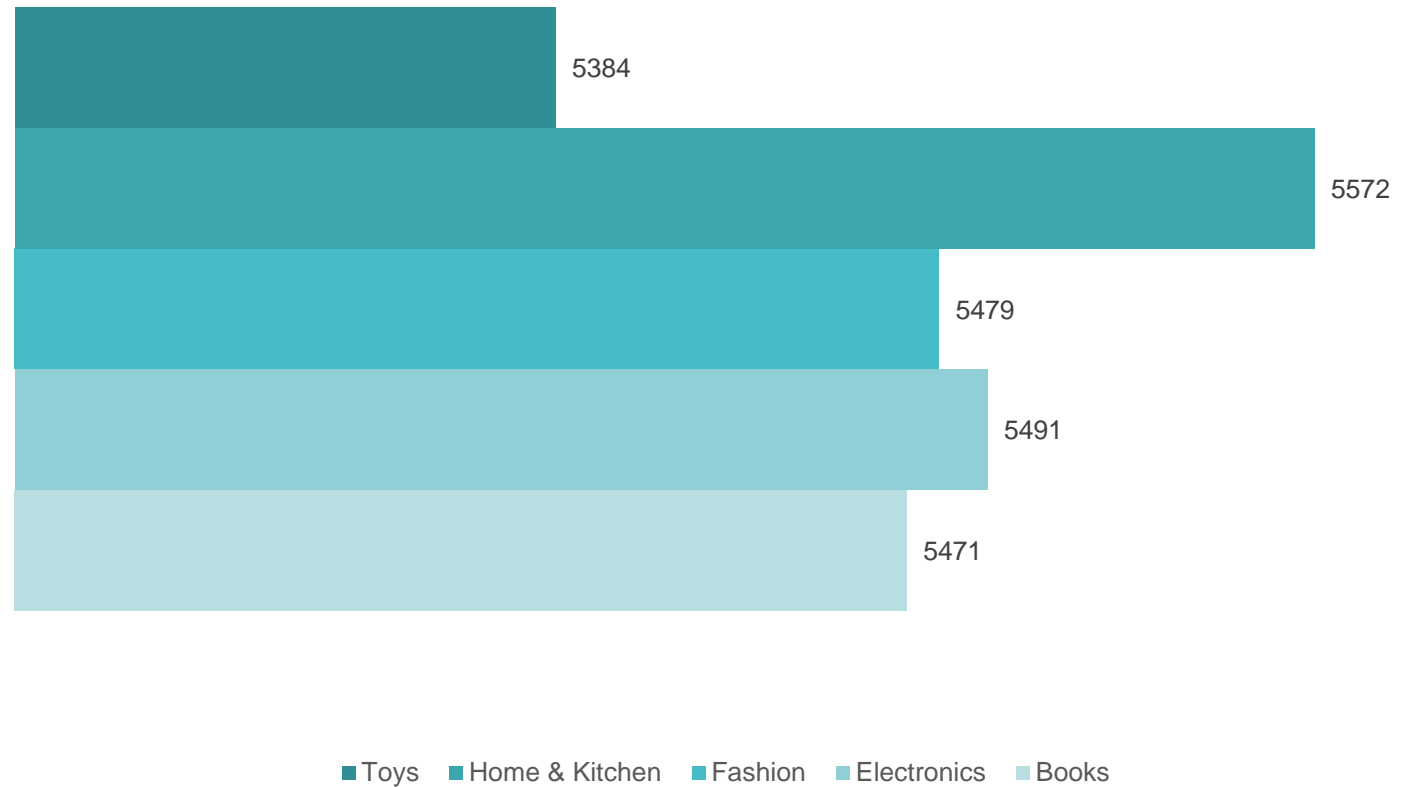- As per the pattern in spending behaviour overall there is **No Correlation**
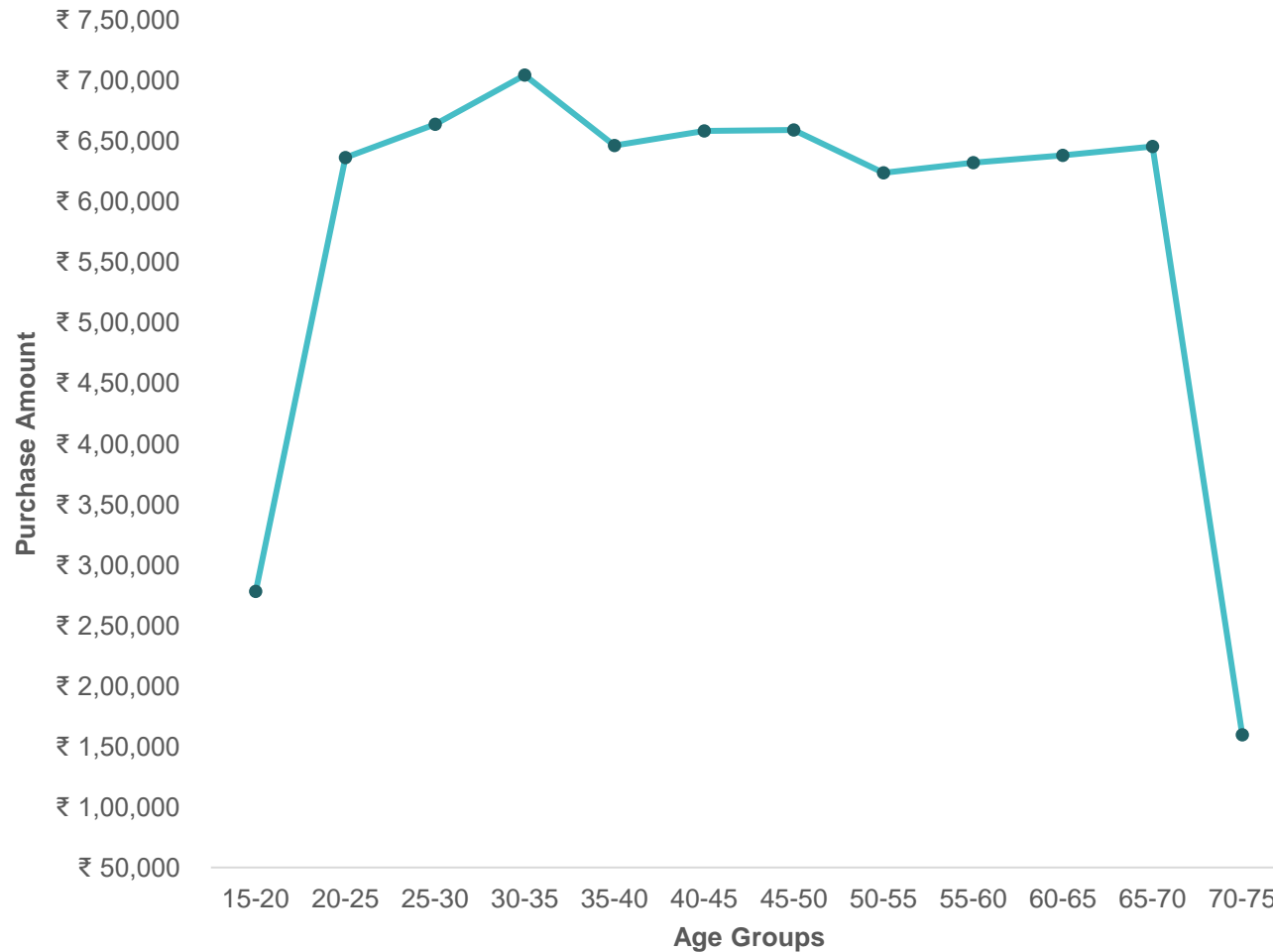
Task 11

Continues vs Continues Analysis

- Visualized how Purchase Amounts vary with Customer Age

- There is a Positive correlation between age and purchase amount between 15-20 to 30-35 age group
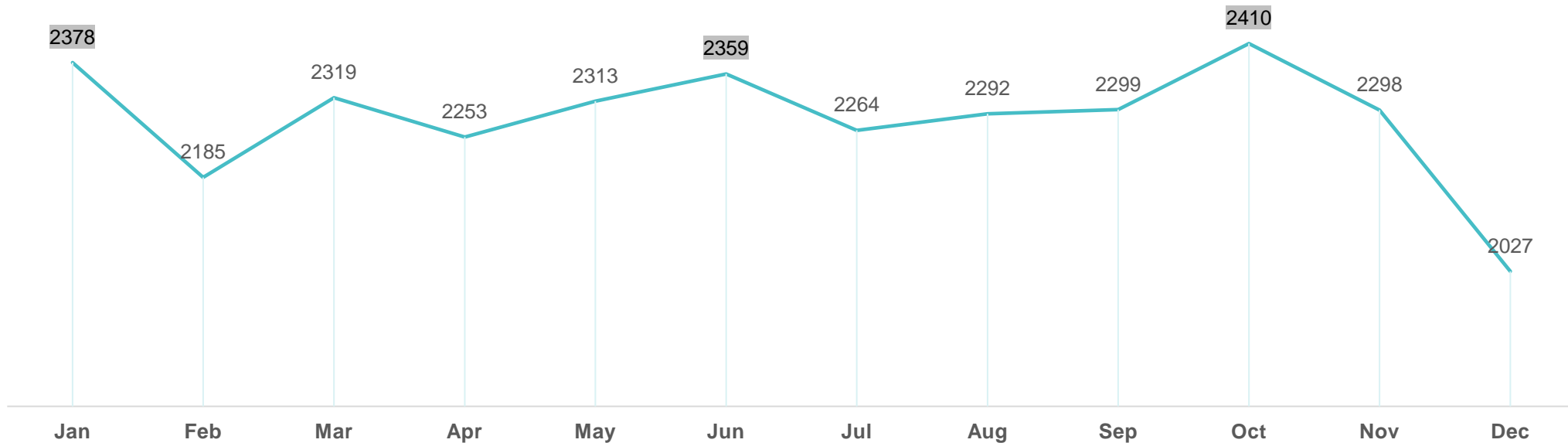
- Negative correlation past the 65-70 age group

Task 12

Line Plot for Monthly Purchase Trends

- Tracked the number of purchases made in each months

- The peak shopping periods are October, January and June

Number of Purchase by Months

Thank you