

Customer Name	Money Spent (₱)	Minutes Inside
Chloe Mendoza	380	85
Anna Reyes	80	5
Mika Tan	280	45
Zach Uy	400	90
Kevin Ramos	220	35
Sofia Dela Peña	110	9
Brian Lim	350	80
Caleb Ong	450	100
Liam Cruz	100	8
Ella Navarro	240	38
John Mercado	120	10
Jared Flores	260	42
Mark Santos	95	7
Paula Gomez	200	30
Hannah Roque	420	95

## **Exercise 1**

1. Plot the data in a scatter plot (10 pts)
2. Using the randomly selected initial clusters, calculate the distances of all data points using Euclidean distance (15 pts)
3. Assign a cluster for all data points (15 pts)
4. Calculate the mean of each cluster (15 pts)
5. Recalculate the distance of all data points from the mean using Euclidean distance (15 pts)
6. Assign a cluster for all data points (15 pts)
7. Plot the final cluster in a scatter plot (15 pts)

Customer Name	Money Spent (₱)	Minutes Inside	$d_1$	$d_2$	$d_3$	Cluster
Chloe Mendoza	380	85				
Anna Reyes	80	5				
Mika Tan	280	45				
Zach Uy	400	90				
Kevin Ramos	220	35				
Sofia Dela Peña	110	9				
Brian Lim	350	80				
Caleb Ong	450	100				
Liam Cruz	100	8				
Ella Navarro	240	38				
John Mercado	120	10				
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