DELA PAZ, LANCE KENNETH F.

COM 232

No. _____

Date _____

Exercise 2.

Customer	Avg Bet per Visit (USD)	Visit per Month
A	10	1
B	20	2
C	55	6
D	70	8
E	60	10
F	35	4

1. Compute all pairwise Euclidean distances between Customers.

↳ 2nd paper

2. Create a matrix that will contain all the distances

	A	B	C	D	E	F
A	0	10.0	45.3	60.4	50.8	25.2
B	10.0	0	35.2	50.4	40.8	15.1
C	45.3	35.2	0	15.1	6.4	20.1
D	60.4	50.4	15.1	0	10.2	35.2
E	50.8	40.8	6.4	10.2	0	25.7
F	25.2	15.1	20.1	35.2	25.7	0

3. Using single linkage, determine the merging order step by step.

4. Record the distance at which each merge occurs.

C - E = 6.4

A - B = 10.0

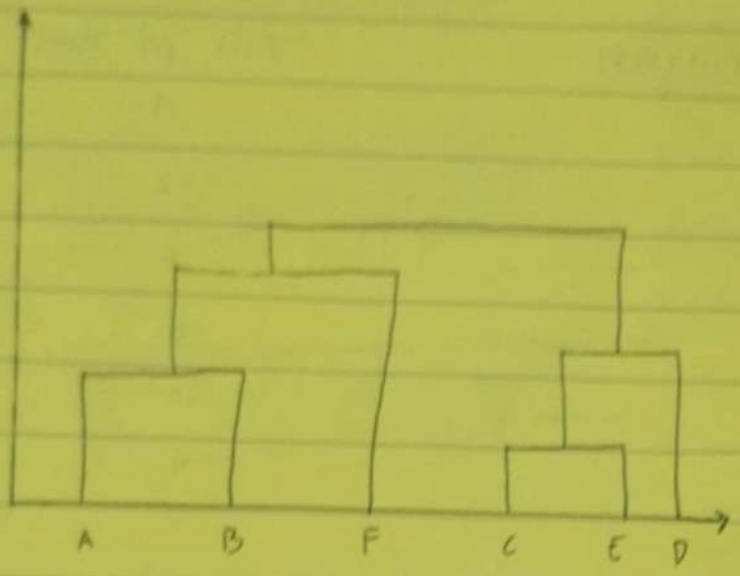
~~[illegible]~~ CE - D = 10.2

~~[illegible]~~ AB - F = 15.1

C - F = 20.1

CED - ABF = ABFCED = 20.1

5. Draw the corresponding dendrogram



6. Interpret the clusters. What costumer behaviors does each cluster represent?

The final clusters show how customers naturally group based on how they visit and how much they usually bet. The first cluster includes C, E, and D, who tend to spend more, visit more often, and are the most likely to take advantage of VIP perks and exclusive promos. While the other cluster includes A, B, and F, who spend less and only drop by a few times each month, usually responding more to regular promos than premium offers.