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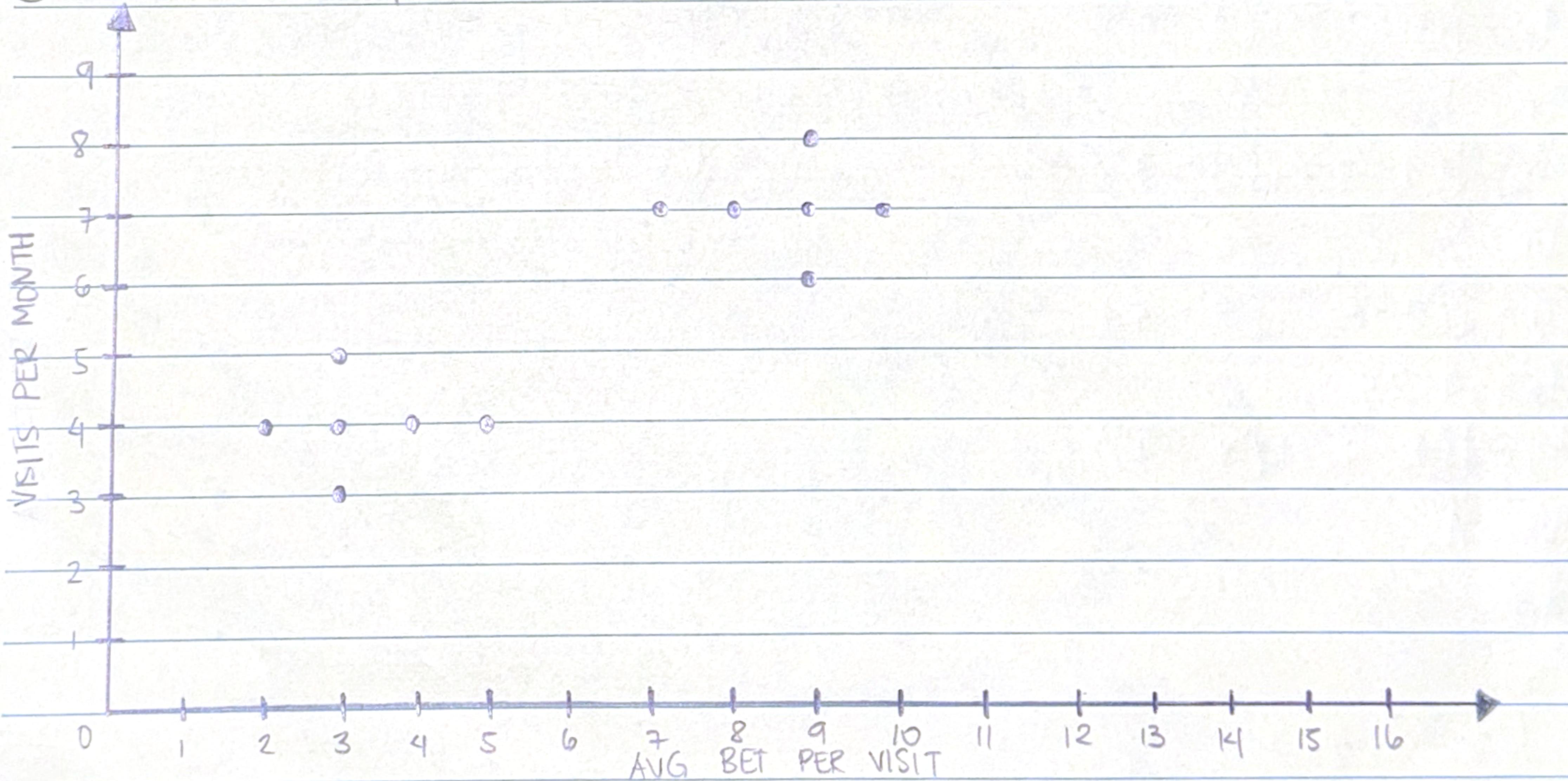
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GIVEN:

ADVANCED MACHINE LEARNING  
EXERCISE 3

CUSTOMER	AVG BET PER VISIT	VISITS PER MONTH
A	3	4
B	2	4
C	3	3
D	3	5
E	9	7
F	8	7
G	9	6
H	9	8
I	4	4
J	10	7
T	5	4
U	7	7

① Create a scatter plot



② Compute the Euclidean distance between

③ Create a full distance matrix

	A	B	C	D	E	F	G	H	I	J	T	U
A	0	1	1	1	6.7	5.8	6.3	7.2	1	7.6	2	5
B	1	0	1.4	1.4	7.6	6.7	7.2	8	2	8.5	3	5.8
C	1	1.4	0	2	7.2	6.4	6.7	7.8	1.4	8	2.2	5.7
D	1	1.4	2	0	6.3	5.3	6	6.7	1.4	7.2	2.2	4.5
E	6.7	7.6	7.2	6.3	0	1	1	1	5.8	1	5	2
F	5.8	6.7	6.4	5.3	1	0	1.4	1.4	5	2	4.2	1
G	6.3	7.2	6.7	6	1	1.4	0	2	5.3	1.4	4.5	2.2
H	7.2	8	7.8	6.7	1	1.4	2	0	6.4	1.4	5.7	2.2
I	1	2	1.4	1.4	5.8	5	5.3	6.4	0	6.7	1	4.2
J	7.6	8.5	8	7.2	1	2	1.4	1.4	6.7	0	5.8	3
T	2	3	2.2	2.2	5	4.2	4.5	5.7	1	5.8	0	3.6
U	5	5.8	5.7	4.5	2	1	2.2	2.2	4.2	3	3.6	0

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CUSTOMER	NEIGHBOURS WITHIN	NO. NO. OF NEIGHBOURS	POINT TYPE	CLUSTER
A	B, C, D, I	4	CORE	SPIDER-MAN
B	A	1	NON-CORE	SPIDER-MAN
C	A	1	NON-CORE	SPIDER-MAN
D	A	1	NON-CORE	SPIDER-MAN
E	F, G, H, J	4	CORE	BATMAN
F	E, U	2	CORE	BATMAN
G	E	1	NON-CORE	BATMAN
H	E	1	NON-CORE	BATMAN
I	A, T	2	CORE	SPIDER-MAN
J	E	1	NON-CORE	BATMAN
T	I	1	NON-CORE	SPIDER-MAN
U	F	1	NON-CORE	BATMAN