

HAC Homework

- For the data set below show all iterations (from 5 clusters until 1 cluster remaining) for HAC single link. Show work. Use Manhattan distance. In case of ties go with the cluster containing the least alphabetical instance. Show the dendrogram for the HAC case, including properly labeled distances on the vertical-axis of the dendrogram.

<i>Pattern</i>	<i>x</i>	<i>y</i>
<i>a</i>	.8	.7
<i>b</i>	-.1	.2
<i>c</i>	.9	.8
<i>d</i>	0	.2
<i>e</i>	.2	.1

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Distance Matrix

<i>Pattern</i>	<i>x</i>	<i>y</i>
<i>a</i>	.8	.7
<i>b</i>	-.1	.2
<i>c</i>	.9	.8
<i>d</i>	0	.2
<i>e</i>	.2	.1

	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>e</i>
<i>a</i>	0	1.4	.2	1.3	1.2
<i>b</i>		0	1.6	.1	.4
<i>c</i>			0	1.5	1.4
<i>d</i>				0	.3
<i>e</i>					0

	<i>Closest clusters</i>	<i>distance</i>
1	5 separate clusters	0
2	<i>b</i> and <i>d</i>	.1
3	<i>a</i> and <i>c</i>	.2
4	{ <i>b,d</i> } and <i>e</i>	.3
5	{ <i>b,d,e</i> } and { <i>a,c</i> }	1.2

