| 1 C:\Users\nguye\.virtualenvs\lab4_clust | | | | | | | | |
|---|--|--|--|--|--|--|--|--|
| - nython ove "C•/Heare/require/Drabatic /Da | | | | | | | | |
| <pre>python.exe "C:/Users/nguye/OneDrive/Do</pre> | | | | | | | | |
| HpSepctrex360/GeneralClassDownloads/CS | HpSepctrex360/GeneralClassDownloads/CSC 466/ | | | | | | | |
| lab4_clustering/clustering/hclustering | lab4_clustering/clustering/hclustering.py" ./data/ | | | | | | | |
| iris.csv 0.4438313346836665 | | | | | | | | |
| 2 sepal_length sepal_width petal_le | nath | | | | | | | |
| | ing cir | | | | | | | |
| petal_width | 0 0 | | | | | | | |
| 3 0 0.0 0.0 | 0.0 0. | | | | | | | |
| 375 | | | | | | | | |
| 4 | | | | | | | | |
| 5 sepal_length sepal_width petal_l | ength. | | | | | | | |
| petal_width | | | | | | | | |
| • | 184746 0. | | | | | | | |
| 125000 | .01710 | | | | | | | |
| | 50847 0. | | | | | | | |
| | 130047 | | | | | | | |
| 125000 | 40/// | | | | | | | |
| | .18644 0. | | | | | | | |
| 083333 | | | | | | | | |
| 9 11 0.637681 0.794118 0.0 | 184746 0. | | | | | | | |
| 041667 | | | | | | | | |
| 10 49 0.623188 0.794118 0.0 | 184746 0. | | | | | | | |
| 041667 | | | | | | | | |
| | 184746 0. | | | | | | | |
| 083333 | 0. | | | | | | | |
| | 04/05 0 | | | | | | | |
| | .01695 0. | | | | | | | |
| 041667 | | | | | | | | |
| 13 22 0.594203 0.794118 0.0 | 184746 0. | | | | | | | |
| 125000 | | | | | | | | |
| 14 6 0.637681 0.852941 0.1 | .18644 0. | | | | | | | |
| 125000 | | | | | | | | |
| | .52542 0. | | | | | | | |
| 125000 | .02012 | | | | | | | |
| 16 15 0.695652 0.882353 0.0 | 33898 0. | | | | | | | |
| | 133070 0. | | | | | | | |
| 041667 | 0.4844 | | | | | | | |
| | 184746 0. | | | | | | | |
| 000000 | | | | | | | | |
| 18 34 0.652174 0.941176 0.0 | 0. | | | | | | | |
| 041667 | | | | | | | | |
| 19 42 0.507246 0.382353 0.0 | 50847 0. | | | | | | | |
| 083333 | | | | | | | | |
| | 16949 0. | | | | | | | |
| Page 1 of 8 | ,10,77, U. | | | | | | | |

| File - I | nclustering | | | | |
|----------|--------------|----------|-----------------|----------|----|
| 20 | 000000 | | | | |
| 21 | 9 | 0.492754 | 0.558824 | 0.067797 | 0. |
| | 041667 | | | | |
| 22 | | 0.492754 | 0.588235 | 0.050847 | 0. |
| | 041667 | | | | _ |
| | | 0.521739 | 0.764706 | 0.000000 | 0. |
| | 041667 | 0 550540 | 0 575007 | 0.404/05 | 0 |
| 24 | | 0.5/9/10 | 0.735294 | 0.101695 | 0. |
| 25 | 208333 | 0 477401 | 0 705000 | 0.084746 | 0 |
| 25 | 125000 | 0.03/001 | 0.705882 | 0.004/40 | 0. |
| 26 | | 0.594203 | 0.676471 | 0.118644 | 0. |
| 20 | 166667 | 0.374203 | 0.070471 | 0.110044 | 0. |
| 27 | | 0.579710 | 0.705882 | 0.101695 | 0. |
| | 125000 | 0.077710 | 0.700002 | 0.101070 | 0. |
| 28 | | 0.637681 | 0.705882 | 0.118644 | 0. |
| | 041667 | | | | |
| 29 | 37 | 0.652174 | 0.735294 | 0.050847 | 0. |
| | 041667 | | | | |
| 30 | 5 | 0.579710 | 0.764706 | 0.067797 | 0. |
| | 041667 | | | | |
| 31 | 18 | 0.594203 | 0.735294 | 0.067797 | 0. |
| | 083333 | | | | |
| | | 0.579710 | 0.735294 | 0.050847 | 0. |
| | 083333 | 0.50/007 | 0 575007 | 0.045555 | • |
| 33 | 1 | 0.594203 | 0.735294 | 0.067797 | 0. |
| 7/ | 041667 | 0 /00/0/ | 0 77500/ | 0 00/7// | 0 |
| | 28 041667 | | 0.735294 | 0.084/46 | 0. |
| | | | 0.705882 | n n47707 | 0. |
| | 041667 | 0.000070 | 0.703002 | 0.007777 | 0. |
| | | 0.579710 | 0.705882 | 0.084746 | 0. |
| | 041667 | 2.0,,,20 | 51,000 2 | | • |
| | | 0.594203 | 0.705882 | 0.084746 | 0. |
| | 041667 | | | | |
| 38 | 36 | 0.579710 | 0.647059 | 0.033898 | 0. |
| | 041667 | | | | |
| 39 | 50 | 0.579710 | 0.676471 | 0.067797 | 0. |
| | 041667 | | | | |
| 40 | | 0.550725 | 0.588235 | 0.067797 | 0. |
| | 083333 | | | | |
| | | | | | |

| 41 4 0.521739 0.617647 0.084746 0. 041667 42 30 0.536232 0.647059 0.101695 0. 041667 43 31 0.550725 0.617647 0.101695 0. 041667 44 43 0.492754 0.647059 0.050847 0. 041667 45 3 0.536232 0.647059 0.050847 0. 041667 46 48 0.521739 0.647059 0.067797 0. 041667 47 2 0.565217 0.588235 0.067797 0. 041667 48 26 0.579710 0.588235 0.101695 0. 041667 49 38 0.565217 0.617647 0.084746 0. 0000000 50 35 0.565217 0.617647 0.084746 0. 000000 51 10 0.565217 0.617647 0.084746 0. 000000 52 13 0.550725 0.588235 0.067797 0. 0833333 54 12 0.550725 0.705882 0.067797 0. 0833333 55 0.565217 0.705882 0.101695 0. 041667 56 25 0.550725 0.705882 0.101695 0. 041667 57 sepal_length sepal_width petal_length petal_width 58 107 0.565217 0.441176 0.593220 0. 666667 59 88 0.768116 0.382353 0.576271 0. 583333 61 120 0.724638 0.352941 0.593220 0. 583333 61 120 0.724638 0.352941 0.593220 0. | File - n | clustering | | | | | |
|--|----------|------------|------------|-------------------|--------------|--------------|--|
| 42 30 | | | 0.521739 | 0.617647 | 0.084746 | 0. | |
| 041667 43 31 0.550725 0.617647 0.101695 0.000041695 44 43 0.492754 0.647059 0.050847 0.0000847 45 3 0.536232 0.647059 0.067797 0.00007797 46 48 0.521739 0.647059 0.067797 0.00007797 041667 0.565217 0.588235 0.101695 0.0000797 48 26 0.579710 0.588235 0.101695 0.000000 49 38 0.565217 0.617647 0.084746 0.000000 50 35 0.565217 0.617647 0.084746 0.000000 51 10 0.565217 0.617647 0.084746 0.000000 52 13 0.550725 0.588235 0.067797 0.000000 52 13 0.550725 0.705882 0.101695 0.000000 54 12 0.550725 0.705882 0.152542 0.000000 55 25 0.550725 0.705882 0.152542 0.000000 56 <td< td=""><td></td><td></td><td>n</td><td>n 677050</td><td>0 101605</td><td>O.</td><td></td></td<> | | | n | n 677050 | 0 101605 | O. | |
| 43 31 0.550725 0.617647 0.101695 0. 44 43 0.492754 0.647059 0.050847 0. 45 3 0.536232 0.647059 0.067797 0. 64 48 0.521739 0.647059 0.067797 0. 641667 0.565217 0.588235 0.067797 0. 641667 0.579710 0.588235 0.101695 0. 641667 0.565217 0.617647 0.084746 0. 6000000 0.565217 0.617647 0.084746 0. 50 35 0.565217 0.617647 0.084746 0. 6000000 0.550725 0.588235 0.067797 0. 52 13 0.550725 0.705882 0.067797 0. 0833333 54 12 0.550725 0.705882 0.101695 0. 66 57 sepal_length sepal_width petal_length petal_width 0.593220 0. 58 107 0.565217 0.441176 0.593220 0. <td></td> <td></td> <td>0.330232</td> <td>0.04/037</td> <td>0.101075</td> <td>0.</td> <td></td> | | | 0.330232 | 0.04/037 | 0.101075 | 0. | |
| 44 43 | | | 0.550725 | 0.617647 | 0.101695 | 0. | |
| 45 3 0.536232 0.647059 0.050847 0. 46 48 0.521739 0.647059 0.067797 0. 641667 0.565217 0.588235 0.067797 0. 48 26 0.579710 0.588235 0.101695 0. 6041667 0.617647 0.084746 0. 0. 49 38 0.565217 0.617647 0.084746 0. 0000000 0.565217 0.617647 0.084746 0. 51 10 0.565217 0.617647 0.084746 0. 0000000 0.550725 0.588235 0.067797 0. 0000000 0.550725 0.705882 0.067797 0. 0833333 0.550725 0.705882 0.101695 0. 041667 0.550725 0.705882 0.152542 0. 041667 0.565217 0.441176 0.593220 0. 56 7 sepal_length sepal_width petal_length petal_width 58 107 0.565217 0.441176 | | | | | | | |
| 45 3 | | | 0.492754 | 0.647059 | 0.050847 | 0. | |
| 041667 46 48 0.521739 0.647059 0.067797 0.041667 47 2 0.565217 0.588235 0.067797 0.041667 48 26 0.579710 0.588235 0.101695 0.041667 49 38 0.565217 0.617647 0.084746 0.000000 50 35 0.565217 0.617647 0.084746 0.000000 51 10 0.565217 0.617647 0.084746 0.000000 52 13 0.550725 0.588235 0.067797 0.000000 53 7 0.521739 0.705882 0.067797 0.000000 53 7 0.550725 0.705882 0.101695 0.000000 55 25 0.550725 0.705882 0.152542 0.0000000 56 25 0.550725 0.705882 0.152542 0.000000000 56 25 0.550725 0.705882 0.152542 0.00000000000000000000000000000000000 | | | n 536232 | 0 647050 | 0 0508/7 | _O | |
| 46 48 0.521739 0.647059 0.067797 0.067797 0.067797 0.067797 0.067797 0.0724638 0.067797 0.077979 0.07797 | | | 0.330232 | 0.047037 | 0.030047 | 0. | |
| 47 2 0.565217 0.588235 0.067797 0. 48 26 0.579710 0.588235 0.101695 0. 6041667 0.041667 0.084746 0. 0. 6000000 0.565217 0.617647 0.084746 0. 6000000 0.565217 0.617647 0.084746 0. 6000000 0.565217 0.617647 0.084746 0. 6000000 0.550725 0.588235 0.067797 0. 6000000 0.521739 0.705882 0.067797 0. 6033333 0.550725 0.705882 0.101695 0. 641667 0.550725 0.705882 0.152542 0. 641667 0.550725 0.705882 0.152542 0. 641667 0.593220 0. 0. 56 0.441667 0.593220 0. 56 0.768116 0.382353 0.576271 0. 59 88 0.768116 0.352941 0.593220 0. 583333 0.120 0.724638 0.3 | 46 | | 0.521739 | 0.647059 | 0.067797 | 0. | |
| 041667 48 26 0.579710 0.588235 0.101695 0.00041667 49 38 0.565217 0.617647 0.084746 0.000000 50 35 0.565217 0.617647 0.084746 0.000000 51 10 0.565217 0.617647 0.084746 0.000000 52 13 0.550725 0.588235 0.067797 0.0000797 0000000 0.521739 0.705882 0.067797 0.0000797 041667 0.550725 0.705882 0.101695 0.00000 55 25 0.550725 0.705882 0.152542 0.00000 66 0.4667 0.441176 0.593220 0.00000 60 66667 0.768116 0.382353 0.576271 0.000000 60 69 0.753623 0.352941 0.593220 0.000000 60 69 0.753623 0.352941 0.677966 0.677966 | | | | | | | |
| 48 26 0.579710 0.588235 0.101695 0. 041667 49 38 0.565217 0.617647 0.084746 0. 0000000 50 35 0.565217 0.617647 0.084746 0. 0000000 51 10 0.565217 0.617647 0.084746 0. 0000000 52 13 0.550725 0.588235 0.067797 0. 0000000 53 7 0.521739 0.705882 0.067797 0. 0833333 54 12 0.550725 0.705882 0.101695 0. 041667 55 25 0.550725 0.705882 0.101695 0. 041667 56 57 | | | 0.565217 | 0.588235 | 0.067797 | 0. | |
| 041667 49 38 | | | 0.579710 | 0.588235 | 0.101695 | Θ. | |
| 50 35 0.565217 0.617647 0.084746 0.080000 51 10 0.565217 0.617647 0.084746 0.000000 52 13 0.550725 0.588235 0.067797 0.000000 53 7 0.521739 0.705882 0.067797 0.000000 54 12 0.550725 0.705882 0.101695 0.00000 55 25 0.550725 0.705882 0.152542 0.000000 56 57 sepal_length sepal_width petal_length petal_length petal_length 0.441176 0.593220 0.000000 666667 0.768116 0.382353 0.576271 0.00000000000000000000000000000000000 | | | 0.077710 | 0.000200 | 0.101070 | . | |
| 50 35 | 49 | 38 | 0.565217 | 0.617647 | 0.084746 | 0. | |
| 0000000 51 10 | | | 0.5/5045 | | 0.00/5// | | |
| 51 10 | | | 0.565217 | 0.617647 | 0.084746 | Ο. | |
| 52 13 | | | 0.565217 | 0.617647 | 0.084746 | 0. | |
| 53 7 0.521739 0.705882 0.067797 0. 0833333 54 12 0.550725 0.705882 0.101695 0. 041667 55 25 0.550725 0.705882 0.152542 0. 041667 56 57 sepal_length sepal_width petal_length petal_width 58 107 0.565217 0.441176 0.593220 0. 666667 59 88 0.768116 0.382353 0.576271 0. 500000 60 69 0.753623 0.352941 0.593220 0. 583333 61 120 0.724638 0.352941 0.677966 0. | | | | | | | |
| 53 7 0.521739 0.705882 0.067797 0. 083333 54 12 0.550725 0.705882 0.101695 0. 041667 55 25 0.550725 0.705882 0.152542 0. 041667 56 57 sepal_length sepal_width petal_length petal_width 58 107 0.565217 0.441176 0.593220 0. 666667 59 88 0.768116 0.382353 0.576271 0. 500000 60 69 0.753623 0.352941 0.593220 0. 583333 61 120 0.724638 0.352941 0.677966 0. | 52 | | 0.550725 | 0.588235 | 0.067797 | 0. | |
| 083333 54 12 | E 7 | | 0 501770 | 0 705000 | 0.0/7707 | 0 | |
| 54 12 0.550725 0.705882 0.101695 0. | ၁၁ | | 0.521/39 | 0.703882 | 0.00//9/ | υ. | |
| 55 25 0.550725 0.705882 0.152542 0. 041667 56 57 | 54 | | 0.550725 | 0.705882 | 0.101695 | 0. | |
| 041667 56 57 | | 041667 | | | | | |
| 56 57 sepal_length sepal_width petal_length petal_width 58 107 0.565217 0.441176 0.593220 0.666667 59 88 0.768116 0.382353 0.576271 0.500000 60 69 0.753623 0.352941 0.593220 0.583333 61 120 0.724638 0.352941 0.677966 0. | 55 | | 0.550725 | 0.705882 | 0.152542 | 0. | |
| 57 sepal_length sepal_width petal_length petal_width 58 107 0.565217 0.441176 0.593220 0.666667 59 88 0.768116 0.382353 0.576271 0.500000 60 69 0.753623 0.352941 0.593220 0.583333 61 120 0.724638 0.352941 0.677966 0. | 54 | U41667 | | | | | |
| petal_width 58 107 0.565217 0.441176 0.593220 0. 666667 59 88 0.768116 0.382353 0.576271 0. 500000 60 69 0.753623 0.352941 0.593220 0. 583333 61 120 0.724638 0.352941 0.677966 0. | | se | pal_length | sepal width | petal length | | |
| 666667 59 88 0.768116 0.382353 0.576271 0. 500000 60 69 0.753623 0.352941 0.593220 0. 583333 61 120 0.724638 0.352941 0.677966 0. | | | • – | , | | | |
| 59 88 0.768116 0.382353 0.576271 0. 500000 0.753623 0.352941 0.593220 0. 583333 0.724638 0.352941 0.677966 0. | 58 | | 0.565217 | 0.441176 | 0.593220 | 0. | |
| 500000 60 69 0.753623 0.352941 0.593220 0. 583333 61 120 0.724638 0.352941 0.677966 0. | EO | | 0 7/044/ | 0 700757 | 0 57/074 | 0 | |
| 60 69 0.753623 0.352941 0.593220 0. 583333 0.724638 0.352941 0.677966 0. | 39 | | U./68116 | ⊎ . აช∠ახა | 0.5/62/1 | Ů. | |
| 583333 61 120 | 60 | | 0.753623 | 0.352941 | 0.593220 | 0. | |
| | | | | | | | |
| 583333 | 61 | | 0.724638 | 0.352941 | 0.677966 | 0. | |
| | | <u> </u> | | | | | |

| File - hc | lustering | | | | |
|-----------|--------------|----------|----------|----------|----|
| 62 | 135 | 0.739130 | 0.470588 | 0.779661 | 0. |
| 47 | 541667 73 | 0.768116 | 0 //1174 | 0.661017 | 0 |
| 63 | 73 583333 | 0.700110 | 0.441176 | 0.001017 | 0. |
| 64 | 84 | 0.724638 | 0.500000 | 0.694915 | 0. |
| | 625000 | | | | |
| 65 | 134 | 0.768116 | 0.529412 | 0.694915 | 0. |
| | 583333 | 0 570470 | 0 500/40 | 0 /07440 | 0 |
| 66 | 74 458333 | 0.739130 | 0.529412 | 0.627119 | 0. |
| 67 | 55 | 0.797101 | 0.529412 | 0.610169 | 0. |
| | 583333 | 01777202 | 0,01,11 | | |
| 68 | 59 | 0.811594 | 0.558824 | 0.610169 | 0. |
| | 500000 | | | | |
| 69 | 77 | 0.840580 | 0.529412 | 0.644068 | 0. |
| 70 | 541667 66 | 0.826087 | 0.617647 | 0.576271 | 0. |
| /0 | 541667 | 0.020007 | 0.01/04/ | 0.370271 | 0. |
| 71 | 76 | 0.811594 | 0.588235 | 0.576271 | 0. |
| | 541667 | | | | |
| 72 | 51 | 0.869565 | 0.647059 | 0.627119 | 0. |
| 77 | 541667 | 0 055070 | 0 /17//7 | 0 //1017 | 0 |
| /3 | 53 583333 | 0.855072 | 0.617647 | 0.661017 | 0. |
| 74 | 87 | 0.826087 | 0.617647 | 0.627119 | 0. |
| | 583333 | | | | |
| 75 | 52 | 0.782609 | 0.647059 | 0.593220 | 0. |
| l _, | 583333 | | | | |
| 76 | 57 | 0.768116 | 0.676471 | 0.627119 | 0. |
| 77 | 625000 86 | 0.724638 | 0.705882 | 0.593220 | Θ. |
| | 625000 | 0.,29000 | 3.703002 | 0.070220 | 0. |
| 78 | 67 | 0.666667 | 0.588235 | 0.593220 | 0. |
| | 583333 | | | | |
| 79 | 85 | 0.637681 | 0.588235 | 0.593220 | 0. |
| 00 | 583333 | 0 7101/5 | 0 E0077E | 0 5/0777 | 0 |
| 80 | 62 583333 | 0.710145 | 0.588235 | 0.542373 | 0. |
| 81 | 79 | 0.724638 | 0.558824 | 0.593220 | 0. |
| | 583333 | | | | |
| 82 | 64 | 0.739130 | 0.558824 | 0.627119 | 0. |
| | | | | | |

| File - IIC | lustering | | | | |
|------------|--------------|----------|----------|----------|----|
| 82 | 541667 | | | | |
| 83 | 92 | 0.739130 | 0.588235 | 0.610169 | 0. |
| | 541667 | | | | _ |
| 84 | 60 | 0.608696 | 0.500000 | 0.491525 | 0. |
| O.E. | 541667 | 0 ////7 | 0 55000/ | 0 //0/70 | 0 |
| 85 | 65 500000 | 0.666667 | 0.558824 | 0.440678 | 0. |
| 86 | 54 | 0.652174 | 0.382353 | 0.508475 | 0. |
| | 500000 | 0.032174 | 0.002030 | 0.000-70 | 0. |
| 87 | 90 | 0.652174 | 0.441176 | 0.508475 | 0. |
| | 500000 | | | | |
| 88 | 80 | 0.681159 | 0.470588 | 0.423729 | 0. |
| | 375000 | | | | |
| 89 | 82 | 0.652174 | 0.411765 | 0.457627 | 0. |
| 00 | 375000 | 0 ////7 | 0 //445/ | 0 (01505 | 0 |
| 90 | 70 416667 | 0.666667 | 0.441176 | 0.491525 | 0. |
| 91 | 81 | 0.652174 | 0.411765 | 0.474576 | 0. |
| '- | 416667 | 0.032174 | 0.411700 | 0.474370 | 0. |
| 92 | 68 | 0.695652 | 0.500000 | 0.525424 | 0. |
| | 375000 | | | | |
| 93 | 91 | 0.652174 | 0.470588 | 0.576271 | 0. |
| | 458333 | | | | |
| 94 | 83 | 0.695652 | 0.500000 | 0.491525 | 0. |
| OF | 458333 93 | 0 405450 | 0 /70500 | 0 500/75 | 0 |
| | 458333 | 0.695652 | 0.470588 | 0.508475 | 0. |
| | 72 | 0.739130 | 0.529412 | 0.508475 | 0. |
| | 500000 | 01707100 | 0.027112 | 0.000170 | 0. |
| 97 | 75 | 0.782609 | 0.558824 | 0.559322 | 0. |
| | 500000 | | | | |
| 98 | 98 | 0.753623 | 0.558824 | 0.559322 | 0. |
| | 500000 | 0 //// | 0 500075 | 0 505/0/ | • |
| 99 | 89 | 0.666667 | 0.588235 | 0.525424 | 0. |
| 100 | 500000 96 | 0.681159 | 0.588235 | 0.542373 | 0. |
| 100 | 458333 | 0.001137 | 0.300233 | 0.342373 | υ. |
| 101 | 56 | 0.681159 | 0.529412 | 0.593220 | 0. |
| | 500000 | , | | | |
| 102 | 95 | 0.666667 | 0.500000 | 0.542373 | 0. |
| | 500000 | | | | |
| | | | | | |

| File - hcl | lustering | | | | |
|------------|-----------|-----------|-------------|--------------|----|
| 103 | 97 | 0.681159 | 0.558824 | 0.542373 | 0. |
| | 500000 | | | | |
| 104 | 100 | 0.681159 | 0.529412 | 0.525424 | 0. |
| | 500000 | | | | |
| 105 | 63 | 0.724638 | 0.352941 | 0.508475 | 0. |
| | 375000 | | | | |
| 106 | 61 | 0.579710 | 0.294118 | 0.423729 | 0. |
| | 375000 | | | | |
| 107 | 99 | 0.594203 | 0.441176 | 0.338983 | 0. |
| | 416667 | | | | |
| 108 | 58 | 0.565217 | 0.411765 | 0.389831 | 0. |
| | 375000 | | | | |
| 109 | 94 | 0.579710 | 0.382353 | 0.389831 | 0. |
| | 375000 | | | | |
| 110 | | | | | |
| 111 | sep | al_length | sepal_width | petal_length | |
| | petal_wi | dth | | | |
| 112 | 115 | 0.695652 | 0.529412 | 0.694915 | 0. |
| | 958333 | | | | |
| 113 | 103 | 0.884058 | 0.588235 | 0.830508 | 0. |
| | 833333 | | | | |
| 114 | 105 | 0.797101 | 0.588235 | 0.813559 | 0. |
| | 875000 | | | | |
| 115 | 129 | 0.782609 | 0.529412 | 0.779661 | 0. |
| | 833333 | | | | |
| 116 | 133 | 0.782609 | 0.529412 | 0.779661 | 0. |
| | 875000 | | | | |
| 117 | 125 | 0.826087 | 0.676471 | 0.796610 | 0. |
| | 833333 | | _ | | |
| 118 | 113 | 0.840580 | 0.588235 | 0.762712 | 0. |
| | 833333 | | | | _ |
| 119 | 140 | 0.855072 | 0.617647 | 0.745763 | 0. |
| 400 | 833333 | 0 505404 | 0 //5050 | 0 /0/045 | 2 |
| 120 | 111 | 0.797101 | 0.647059 | 0.694915 | 0. |
| 404 | 791667 | 0 505404 | 0 500075 | 0 544077 | • |
| 121 | 148 | 0.797101 | 0.588235 | 0.711864 | 0. |
| 400 | 791667 | 0 055050 | 0 /45//5 | 0 /0/045 | 0 |
| 122 | 142 | 0.855072 | 0.617647 | 0.694915 | 0. |
| 103 | 916667 | 0.00/005 | 0 500075 | 0 5440// | 0 |
| 123 | 146 | 0.826087 | 0.588235 | 0.711864 | 0. |
| | 916667 | | | | |

| File - hc | lustering | | | | |
|-----------|----------------|----------|-------------|----------|----------|
| 124 | 116 916667 | 0.782609 | 0.647059 | 0.728814 | 0. |
| 125 | 137 | 0.768116 | 0.705882 | 0.779661 | 0. |
| 126 | 958333 149 | 0.753623 | 0.705882 | 0.745763 | 0. |
| | 916667 | | | | |
| 127 | 141 958333 | 0.826087 | 0.617647 | 0.779661 | 0. |
| 128 | 121 | 0.855072 | 0.647059 | 0.796610 | 0. |
| | 916667 | | | | |
| 129 | 144 916667 | 0.840580 | 0.647059 | 0.830508 | 0. |
| 130 | 101 000000 | 0.768116 | 0.676471 | 0.847458 | 1. |
| 131 | 145 | 0.826087 | 0.676471 | 0.796610 | 1. |
| | 000000 | 3.020007 | 0.0/07/1 | 3.,,0010 | - |
| 132 | 114 | 0.681159 | 0.441176 | 0.677966 | 0. |
| | 791667 | 0,00210, | 3.111173 | 3.377733 | • |
| 133 | 143 | 0.695652 | 0.500000 | 0.694915 | 0. |
| | 750000 | | | | |
| 134 | 102 | 0.695652 | 0.500000 | 0.694915 | 0. |
| | 750000 | | | | |
| 135 | 122 | 0.666667 | 0.529412 | 0.661017 | 0. |
| | 791667 | | | | |
| 136 | 124 | 0.768116 | 0.500000 | 0.661017 | 0. |
| | 708333 | | | | |
| 137 | 127 | 0.753623 | 0.529412 | 0.644068 | 0. |
| | 708333 | | | | |
| 138 | 112 | 0.782609 | 0.500000 | 0.728814 | 0. |
| | 750000 | | | | _ |
| 139 | 147 | 0.768116 | 0.441176 | 0.677966 | 0. |
| 4,0 | 750000 | 0 540475 | 0 //5050 | 0 ///0/0 | • |
| 140 | 71 | 0.710145 | 0.647059 | 0.644068 | 0. |
| 1/1 | 708333 | 0 7404/5 | 0 500075 | 0 /0/015 | 0 |
| 141 | 150 | 0.710145 | 0.588235 | 0.694915 | 0. |
| 1/2 | 708333 | 0 770170 | 0 500075 | 0 441017 | 0 |
| 142 | 128 | 0.739130 | 0.588235 | 0.661017 | 0. |
| 1/.7 | 708333 139 | 0.724638 | 0.588235 | 0.644068 | 0. |
| 143 | 708333 | 0./24030 | 0.000233 | 0.044000 | υ. |
| 144 | 700333 78 | 0.826087 | 0.588235 | 0.677966 | 0. |
| | . - | | Dags 7 of 9 | | |

| 1 110 1101 | lustering | | | | |
|------------|---------------|-----------------------------|---------------|---------------|------|
| | 666667 | | | | |
| 145 | 104 | 0.768116 | 0.558824 | 0.779661 | 0. |
| | 708333 | 0 505404 | 0 500075 | 0.0040 | • |
| 146 | 117 | 0.797101 | 0.588235 | 0.762712 | 0. |
| 17.7 | 708333 138 | 0.782609 | 0.617647 | 0.762712 | 0. |
| 14/ | 708333 | 0.762009 | 0.01/04/ | 0.702712 | 0. |
| 148 | 109 | 0.826087 | 0.441176 | 0.813559 | 0. |
| | 708333 | 0.020007 | 0.112170 | 0.010007 | • |
| 149 | 108 | 0.913043 | 0.558824 | 0.898305 | 0. |
| | 708333 | | | | |
| 150 | 131 | 0.927536 | 0.529412 | 0.864407 | 0. |
| | 750000 | | | | |
| 151 | 126 | 0.898551 | 0.647059 | 0.847458 | 0. |
| 450 | 708333 | 0.000554 | 0 500075 | 0.047550 | • |
| 152 | 130 | 0.898551 | 0.588235 | 0.813559 | 0. |
| 153 | 625000 119 | 0.971014 | 0.470588 | 1.000000 | 0. |
| 133 | 916667 | 0.971014 | 0.470388 | 1.000000 | 0. |
| 154 | 136 | 0.971014 | 0.588235 | 0.864407 | 0. |
| | 916667 | | 0.000100 | | |
| 155 | 106 | 0.956522 | 0.588235 | 0.949153 | 0. |
| | 833333 | | | | |
| 156 | 123 | 0.971014 | 0.529412 | 0.966102 | 0. |
| | 791667 | | | | _ |
| 157 | | 0.898551 | 0.764706 | 0.864407 | 1. |
| 150 | 000000 | 0 07101/ | 0 007500 | 0.0//100 | 0 |
| 130 | 118 875000 | 0.971014 | 0.823529 | 0.966102 | 0. |
| 159 | 132 | 1.000000 | 0.823529 | 0.915254 | 0. |
| | 791667 | 1.00000 | 3.323327 | 01,1020. | • |
| 160 | - | | | | |
| 161 | cluster | sse: 0.077581 | 93313899323 , | cluster lengt | h: 4 |
| | thresho | ld: 0.4438313 | 346836665 | | |
| 162 | | | | | |
| 163 | | | | | |
| 164 | Dn. c. c | المناسعة والمعالمة المناطقة | | | |
| 165 | rrocess | finished with | exit code u | | |
| 100 | | | | | |
| | | | | | |