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1 C:\Users\wan9w\AppData\Local\Programs\Python\
  Python312\python.exe C:\Users\wan9w\PycharmProjects\
  CS170-Project2-wwang262-ajohn212-agoel27\main.py
2 Welcome to Feature Selection Algorithm.
3 Please enter which features you would like to use
  with spaces in between: 3 5 7
4
5 Type the number of the algorithm you want to run.
6         1 - Small Dataset
7         2 - Large Dataset
8 1
9 Using features  [3, 5, 7]
10 Instance [2.0, 1.2891084, 2.7268616, 4.6027145] is
   class 2.0
11 Its nearest neighbor is [2.0, 1.8872856, 3.1455549,
   4.3437037] which is class 2.0
12 Instance [2.0, 4.1604586, 4.4436954, 3.1987725] is
   class 2.0
13 Its nearest neighbor is [2.0, 3.9703354, 4.779474, 3
   .3419287] which is class 2.0
14 Instance [2.0, 1.5688752, 4.0847037, 2.7657077] is
   class 2.0
15 Its nearest neighbor is [2.0, 1.58061, 3.8985738, 3.
   0180124] which is class 2.0
16 Instance [2.0, 4.6496685, 2.9564756, 4.5761969] is
   class 1.0
17 Its nearest neighbor is [1.0, 3.8502357, 3.2281684,
   4.1346137] which is class 1.0
18 Instance [2.0, 2.2492359, 2.0416729, 1.8127373] is
   class 2.0
19 Its nearest neighbor is [2.0, 2.7347682, 2.0210048,
   1.7958497] which is class 2.0
20 Instance [2.0, 3.1626539, 2.9546809, 4.7940013] is
   class 2.0
21 Its nearest neighbor is [2.0, 2.8851627, 2.4939927,
   4.3651853] which is class 2.0
22 Instance [2.0, 2.2652492, 5.4415406, 5.0379076] is
   class 2.0
23 Its nearest neighbor is [2.0, 2.9238048, 6.1867693,
   4.8510931] which is class 2.0
24 Instance [2.0, 2.0026738, 0.78255993, 2.0549056] is
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24 class 2.0
25 Its nearest neighbor is [2.0, 2.2916279, 1.3670536,
    2.4302258] which is class 2.0
26 Instance [2.0, 3.1861294, 1.3274516, 4.1778747] is
    class 2.0
27 Its nearest neighbor is [2.0, 3.242684, 1.6187466, 4
    .2132668] which is class 2.0
28 Instance [1.0, 3.0881147, 3.118759, 2.6514664] is
    class 1.0
29 Its nearest neighbor is [1.0, 2.9887791, 3.2945808,
    3.0165427] which is class 1.0
30 Instance [2.0, 1.634114, 4.9802639, 3.60768] is class
    2.0
31 Its nearest neighbor is [2.0, 2.0800926, 4.7599922,
    3.3254656] which is class 2.0
32 Instance [2.0, 0.33396418, 2.325866, 1.8660643] is
    class 2.0
33 Its nearest neighbor is [2.0, 1.5781546, 3.2534242,
    1.067062] which is class 2.0
34 Instance [1.0, 2.8172024, 3.9164937, 2.7707531] is
    class 1.0
35 Its nearest neighbor is [1.0, 3.0723143, 3.7303937,
    2.862599] which is class 1.0
36 Instance [2.0, 2.198638, 2.2468433, 3.1432742] is
    class 2.0
37 Its nearest neighbor is [2.0, 2.1342661, 2.3927948,
    3.2323865] which is class 2.0
38 Instance [2.0, 4.1447528, 2.7925845, 1.1247051] is
    class 2.0
39 Its nearest neighbor is [2.0, 3.6216757, 2.9807186,
    0.5397355] which is class 2.0
40 Instance [1.0, 3.1164802, 3.5067915, 4.1783068] is
    class 1.0
41 Its nearest neighbor is [1.0, 2.8046655, 3.3209477,
    3.6588117] which is class 1.0
42 Instance [2.0, 4.537424, 2.2143479, 3.0220174] is
    class 2.0
43 Its nearest neighbor is [2.0, 4.2423953, 2.526446, 2
    .8007538] which is class 2.0
44 Instance [2.0, 4.8739081, 3.152761, 1.833306] is
    class 2.0
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45 Its nearest neighbor is [2.0, 4.5050999, 3.7423257,
    2.5285667] which is class 2.0
46 Instance [2.0, 1.4496538, 2.1035479, 3.7978567] is
    class 2.0
47 Its nearest neighbor is [2.0, 1.4369458, 2.3677801,
    3.4151457] which is class 2.0
48 Instance [2.0, 4.5019988, 3.0840764, 3.0017344] is
    class 2.0
49 Its nearest neighbor is [2.0, 4.1009309, 3.2766389,
    2.8837897] which is class 2.0
50 Instance [1.0, 2.8886693, 3.1561691, 1.7764847] is
    class 1.0
51 Its nearest neighbor is [1.0, 2.5829095, 3.0730961,
    2.4745137] which is class 1.0
52 Instance [2.0, 2.9127632, 2.0179548, 1.4509174] is
    class 2.0
53 Its nearest neighbor is [2.0, 2.7347682, 2.0210048,
    1.7958497] which is class 2.0
54 Instance [1.0, 2.2862184, 3.6838588, 3.6571727] is
    class 1.0
55 Its nearest neighbor is [1.0, 2.5356065, 3.6089704,
    3.4084175] which is class 1.0
56 Instance [2.0, 2.8845648, 2.7625617, 3.262444] is
    class 2.0
57 Its nearest neighbor is [2.0, 2.9682767, 2.4352254,
    2.9140974] which is class 2.0
58 Instance [2.0, 3.7094421, 2.746, 2.3720192] is class
    1.0
59 Its nearest neighbor is [1.0, 3.7575172, 3.1421973,
    2.5524918] which is class 1.0
60 Instance [1.0, 2.5356065, 3.6089704, 3.4084175] is
    class 1.0
61 Its nearest neighbor is [1.0, 2.5606424, 3.3327647,
    3.4562442] which is class 1.0
62 Instance [2.0, 1.8872856, 3.1455549, 4.3437037] is
    class 2.0
63 Its nearest neighbor is [2.0, 1.7764386, 3.2887389,
    4.2300126] which is class 2.0
64 Instance [1.0, 2.2158984, 3.1036824, 2.4937013] is
    class 1.0
65 Its nearest neighbor is [1.0, 2.5829095, 3.0730961,
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65 2.4745137] which is class 1.0
66 Instance [2.0, 2.2850106, 5.2665799, 3.5926223] is
   class 2.0
67 Its nearest neighbor is [2.0, 2.0800926, 4.7599922
   , 3.3254656] which is class 2.0
68 Instance [2.0, 5.4207348, 1.2939407, 3.8634063] is
   class 2.0
69 Its nearest neighbor is [2.0, 4.537424, 2.2143479,
   3.0220174] which is class 2.0
70 Instance [1.0, 2.5829095, 3.0730961, 2.4745137] is
   class 1.0
71 Its nearest neighbor is [1.0, 2.2158984, 3.1036824
   , 2.4937013] which is class 1.0
72 Instance [2.0, 3.9703354, 4.779474, 3.3419287] is
   class 2.0
73 Its nearest neighbor is [2.0, 4.1604586, 4.4436954
   , 3.1987725] which is class 2.0
74 Instance [2.0, 3.2658461, 1.4375505, 2.5514536] is
   class 2.0
75 Its nearest neighbor is [2.0, 3.6760175, 1.5795947
   , 1.7266687] which is class 2.0
76 Instance [2.0, 3.6216757, 2.9807186, 0.5397355] is
   class 2.0
77 Its nearest neighbor is [2.0, 4.1447528, 2.7925845
   , 1.1247051] which is class 2.0
78 Instance [1.0, 3.5569672, 3.0808565, 3.6047017] is
   class 1.0
79 Its nearest neighbor is [1.0, 3.4088824, 3.2701474
   , 3.2439783] which is class 1.0
80 Instance [2.0, 1.3315278, 3.8447108, 2.7557958] is
   class 2.0
81 Its nearest neighbor is [2.0, 1.5688752, 4.0847037
   , 2.7657077] which is class 2.0
82 Instance [2.0, 3.1021218, 2.8594004, 3.7250568] is
   class 1.0
83 Its nearest neighbor is [1.0, 3.5569672, 3.0808565
   , 3.6047017] which is class 1.0
84 Instance [2.0, 3.4977111, 4.4353144, 2.9009752] is
   class 2.0
85 Its nearest neighbor is [2.0, 3.7845235, 3.8590881
   , 2.9978017] which is class 2.0
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86 Instance [2.0, 4.2423953, 2.526446, 2.8007538] is
   class 2.0
87 Its nearest neighbor is [2.0, 4.607335, 2.6582858,
   2.7758827] which is class 2.0
88 Instance [2.0, 4.7780708, 3.323899, 3.6212939] is
   class 2.0
89 Its nearest neighbor is [2.0, 4.813655, 3.811333, 3
   .6159189] which is class 2.0
90 Instance [2.0, 2.2656805, 1.3204297, 3.9188729] is
   class 2.0
91 Its nearest neighbor is [2.0, 1.851787, 1.1508197,
   3.5945817] which is class 2.0
92 Instance [2.0, 4.813655, 3.811333, 3.6159189] is
   class 2.0
93 Its nearest neighbor is [2.0, 4.7780708, 3.323899,
   3.6212939] which is class 2.0
94 Instance [2.0, 3.242684, 1.6187466, 4.2132668] is
   class 2.0
95 Its nearest neighbor is [2.0, 3.4456077, 1.7554595
   , 4.3288405] which is class 2.0
96 Instance [2.0, 3.8022981, 2.5213879, 4.2198409] is
   class 2.0
97 Its nearest neighbor is [2.0, 4.1813028, 2.2195997
   , 4.0770627] which is class 2.0
98 Instance [2.0, 1.9558318, 5.2158948, 2.2360952] is
   class 2.0
99 Its nearest neighbor is [2.0, 1.4838125, 4.4404502
   , 2.7179615] which is class 2.0
100 Instance [2.0, 2.4747636, 2.1147054, 4.4873243] is
   class 2.0
101 Its nearest neighbor is [2.0, 2.8851627, 2.4939927
   , 4.3651853] which is class 2.0
102 Instance [1.0, 3.7980438, 3.4293329, 2.4991126] is
   class 1.0
103 Its nearest neighbor is [1.0, 3.7855695, 3.5792316
   , 2.5504631] which is class 1.0
104 Instance [2.0, 2.2916279, 1.3670536, 2.4302258] is
   class 2.0
105 Its nearest neighbor is [2.0, 1.8622972, 1.4646027
   , 2.6765852] which is class 2.0
106 Instance [1.0, 2.8046655, 3.3209477, 3.6588117] is
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106 class 1.0
107 Its nearest neighbor is [1.0, 2.5606424, 3.3327647
    , 3.4562442] which is class 1.0
108 Instance [2.0, 2.0800926, 4.7599922, 3.3254656] is
    class 2.0
109 Its nearest neighbor is [2.0, 2.0589935, 4.5832514
    , 3.3757077] which is class 2.0
110 Instance [2.0, 3.4456077, 1.7554595, 4.3288405] is
    class 2.0
111 Its nearest neighbor is [2.0, 3.242684, 1.6187466,
    4.2132668] which is class 2.0
112 Instance [1.0, 3.4088824, 3.2701474, 3.2439783] is
    class 1.0
113 Its nearest neighbor is [1.0, 3.3472314, 3.1825054
    , 3.1157781] which is class 1.0
114 Instance [1.0, 3.7575172, 3.1421973, 2.5524918] is
    class 1.0
115 Its nearest neighbor is [1.0, 3.7980438, 3.4293329
    , 2.4991126] which is class 1.0
116 Instance [1.0, 2.9919702, 3.4166024, 3.2687302] is
    class 1.0
117 Its nearest neighbor is [1.0, 2.9887791, 3.2945808
    , 3.0165427] which is class 1.0
118 Instance [2.0, 2.5165761, 2.2232306, 1.0172538] is
    class 2.0
119 Its nearest neighbor is [2.0, 2.9127632, 2.0179548
    , 1.4509174] which is class 2.0
120 Instance [2.0, 2.3881311, 2.932924, 3.1462586] is
    class 1.0
121 Its nearest neighbor is [1.0, 2.0810018, 3.1251075
    , 3.4647919] which is class 1.0
122 Instance [2.0, 3.4478789, 4.243512, 4.1713099] is
    class 1.0
123 Its nearest neighbor is [1.0, 3.1164802, 3.5067915
    , 4.1783068] which is class 1.0
124 Instance [2.0, 2.9682767, 2.4352254, 2.9140974] is
    class 2.0
125 Its nearest neighbor is [2.0, 2.8845648, 2.7625617
    , 3.262444] which is class 2.0
126 Instance [2.0, 2.1463641, 3.6718089, 4.5874135] is
    class 2.0
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127 Its nearest neighbor is [2.0, 2.4049789, 4.0064465
    , 4.3792172] which is class 2.0
128 Instance [2.0, 1.5781546, 3.2534242, 1.067062] is
    class 2.0
129 Its nearest neighbor is [2.0, 2.5165761, 2.2232306
    , 1.0172538] which is class 2.0
130 Instance [2.0, 2.8851627, 2.4939927, 4.3651853] is
    class 2.0
131 Its nearest neighbor is [2.0, 2.4747636, 2.1147054
    , 4.4873243] which is class 2.0
132 Instance [2.0, 4.1009309, 3.2766389, 2.8837897] is
    class 2.0
133 Its nearest neighbor is [2.0, 4.0813166, 3.2975607
    , 2.7805422] which is class 2.0
134 Instance [2.0, 2.7347682, 2.0210048, 1.7958497] is
    class 2.0
135 Its nearest neighbor is [2.0, 2.9127632, 2.0179548
    , 1.4509174] which is class 2.0
136 Instance [2.0, 1.7062146, 3.9152804, 3.2700952] is
    class 2.0
137 Its nearest neighbor is [2.0, 1.58061, 3.8985738, 3
    .0180124] which is class 2.0
138 Instance [2.0, 2.1342661, 2.3927948, 3.2323865] is
    class 2.0
139 Its nearest neighbor is [2.0, 2.198638, 2.2468433,
    3.1432742] which is class 2.0
140 Instance [1.0, 2.5606424, 3.3327647, 3.4562442] is
    class 1.0
141 Its nearest neighbor is [1.0, 2.5356065, 3.6089704
    , 3.4084175] which is class 1.0
142 Instance [1.0, 3.8502357, 3.2281684, 4.1346137] is
    class 1.0
143 Its nearest neighbor is [1.0, 3.5569672, 3.0808565
    , 3.6047017] which is class 1.0
144 Instance [2.0, 1.7764386, 3.2887389, 4.2300126] is
    class 2.0
145 Its nearest neighbor is [2.0, 1.8872856, 3.1455549
    , 4.3437037] which is class 2.0
146 Instance [2.0, 1.4369458, 2.3677801, 3.4151457] is
    class 2.0
147 Its nearest neighbor is [2.0, 1.4496538, 2.1035479
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147 , 3.7978567] which is class 2.0
148 Instance [1.0, 3.3472314, 3.1825054, 3.1157781] is
    class 1.0
149 Its nearest neighbor is [1.0, 3.4088824, 3.2701474
    , 3.2439783] which is class 1.0
150 Instance [2.0, 2.0589935, 4.5832514, 3.3757077] is
    class 2.0
151 Its nearest neighbor is [2.0, 2.0800926, 4.7599922
    , 3.3254656] which is class 2.0
152 Instance [2.0, 3.1233571, 2.3865056, 0.96134605] is
    class 2.0
153 Its nearest neighbor is [2.0, 2.5165761, 2.2232306
    , 1.0172538] which is class 2.0
154 Instance [2.0, 3.7845235, 3.8590881, 2.9978017] is
    class 1.0
155 Its nearest neighbor is [1.0, 3.7855695, 3.5792316
    , 2.5504631] which is class 1.0
156 Instance [2.0, 4.5050999, 3.7423257, 2.5285667] is
    class 2.0
157 Its nearest neighbor is [2.0, 4.0813166, 3.2975607
    , 2.7805422] which is class 2.0
158 Instance [2.0, 3.1133803, 0.76816721, 3.8812998] is
    class 2.0
159 Its nearest neighbor is [2.0, 3.1861294, 1.3274516
    , 4.1778747] which is class 2.0
160 Instance [2.0, 3.3177131, 3.530648, 1.054392] is
    class 2.0
161 Its nearest neighbor is [2.0, 3.6216757, 2.9807186
    , 0.5397355] which is class 2.0
162 Instance [2.0, 3.5066907, 2.5796036, 2.9847453] is
    class 2.0
163 Its nearest neighbor is [2.0, 2.9682767, 2.4352254
    , 2.9140974] which is class 2.0
164 Instance [2.0, 2.2329917, 3.9936664, 2.4283294] is
    class 1.0
165 Its nearest neighbor is [1.0, 2.8172024, 3.9164937
    , 2.7707531] which is class 1.0
166 Instance [1.0, 3.7265146, 3.2520001, 2.97196] is
    class 2.0
167 Its nearest neighbor is [2.0, 4.1009309, 3.2766389
    , 2.8837897] which is class 2.0
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168 Instance [2.0, 2.4049789, 4.0064465, 4.3792172] is
    class 2.0
169 Its nearest neighbor is [2.0, 2.1463641, 3.6718089
    , 4.5874135] which is class 2.0
170 Instance [2.0, 0.9357802, 2.4744111, 3.8853702] is
    class 2.0
171 Its nearest neighbor is [2.0, 1.4496538, 2.1035479
    , 3.7978567] which is class 2.0
172 Instance [1.0, 3.0723143, 3.7303937, 2.862599] is
    class 1.0
173 Its nearest neighbor is [1.0, 2.8172024, 3.9164937
    , 2.7707531] which is class 1.0
174 Instance [2.0, 3.6760175, 1.5795947, 1.7266687] is
    class 2.0
175 Its nearest neighbor is [2.0, 2.9127632, 2.0179548
    , 1.4509174] which is class 2.0
176 Instance [2.0, 5.9561486, 3.7952038, 3.1098768] is
    class 2.0
177 Its nearest neighbor is [2.0, 4.813655, 3.811333, 3
    .6159189] which is class 2.0
178 Instance [1.0, 2.5251023, 3.0136094, 3.8773634] is
    class 2.0
179 Its nearest neighbor is [2.0, 2.5965054, 2.7124168
    , 3.8789505] which is class 2.0
180 Instance [1.0, 3.5897796, 3.3806264, 2.0164886] is
    class 1.0
181 Its nearest neighbor is [1.0, 3.7980438, 3.4293329
    , 2.4991126] which is class 1.0
182 Instance [2.0, 1.851787, 1.1508197, 3.5945817] is
    class 2.0
183 Its nearest neighbor is [2.0, 2.2656805, 1.3204297
    , 3.9188729] which is class 2.0
184 Instance [1.0, 3.7855695, 3.5792316, 2.5504631] is
    class 1.0
185 Its nearest neighbor is [1.0, 3.7980438, 3.4293329
    , 2.4991126] which is class 1.0
186 Instance [1.0, 2.6048836, 3.6334332, 2.9865783] is
    class 1.0
187 Its nearest neighbor is [1.0, 2.8172024, 3.9164937
    , 2.7707531] which is class 1.0
188 Instance [2.0, 4.607335, 2.6582858, 2.7758827] is
```

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188 class 2.0
189 Its nearest neighbor is [2.0, 4.2423953, 2.526446,
    2.8007538] which is class 2.0
190 Instance [2.0, 4.1813028, 2.2195997, 4.0770627] is
    class 2.0
191 Its nearest neighbor is [2.0, 3.8022981, 2.5213879
    , 4.2198409] which is class 2.0
192 Instance [2.0, 1.58061, 3.8985738, 3.0180124] is
    class 2.0
193 Its nearest neighbor is [2.0, 1.7062146, 3.9152804
    , 3.2700952] which is class 2.0
194 Instance [2.0, 0.06487897, 1.7209079, 4.2481974] is
    class 2.0
195 Its nearest neighbor is [2.0, 0.9357802, 2.4744111
    , 3.8853702] which is class 2.0
196 Instance [2.0, 1.4838125, 4.4404502, 2.7179615] is
    class 2.0
197 Its nearest neighbor is [2.0, 1.5688752, 4.0847037
    , 2.7657077] which is class 2.0
198 Instance [1.0, 2.9887791, 3.2945808, 3.0165427] is
    class 1.0
199 Its nearest neighbor is [1.0, 2.9919702, 3.4166024
    , 3.2687302] which is class 1.0
200 Instance [2.0, 2.5965054, 2.7124168, 3.8789505] is
    class 1.0
201 Its nearest neighbor is [1.0, 2.5251023, 3.0136094
    , 3.8773634] which is class 1.0
202 Instance [2.0, 2.9238048, 6.1867693, 4.8510931] is
    class 2.0
203 Its nearest neighbor is [2.0, 2.2652492, 5.4415406
    , 5.0379076] which is class 2.0
204 Instance [1.0, 2.0810018, 3.1251075, 3.4647919] is
    class 2.0
205 Its nearest neighbor is [2.0, 2.3881311, 2.932924,
    3.1462586] which is class 2.0
206 Instance [2.0, 1.8622972, 1.4646027, 2.6765852] is
    class 2.0
207 Its nearest neighbor is [2.0, 2.2916279, 1.3670536
    , 2.4302258] which is class 2.0
208 Instance [2.0, 4.0813166, 3.2975607, 2.7805422] is
    class 2.0
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209 Its nearest neighbor is [2.0, 4.1009309, 3.2766389
    , 2.8837897] which is class 2.0
210 Time taken to validate: 0.008 s
211 Accuracy: 0.89
212 Time taken to train: 0.008 s
213
214 Process finished with exit code 0
215
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