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1 /Users/ryanzhang/miniconda3/envs/pytorch/bin/python  
    /Users/ryanzhang/Code/GraphKan/scripts_classifier/  
    classifiers.py  
2 Data(x=[1400, 512], edge_index=[2, 9800], edge_attr=  
    =[9800], y=[1400], test_mask=[1400], train_mask=[  
    1400], val_mask=[1400])  
3 Epoch: 001, Loss: 1.8921, Train Acc: 0.3196, Val  
    Acc: 0.3571, Test Acc: 0.3171  
4 Epoch: 002, Loss: 1.6540, Train Acc: 0.4232, Val  
    Acc: 0.3571, Test Acc: 0.3871  
5 Epoch: 003, Loss: 1.5165, Train Acc: 0.5589, Val  
    Acc: 0.5214, Test Acc: 0.5143  
6 Epoch: 004, Loss: 1.4082, Train Acc: 0.5589, Val  
    Acc: 0.5214, Test Acc: 0.5143  
7 Epoch: 005, Loss: 1.2609, Train Acc: 0.6179, Val  
    Acc: 0.5857, Test Acc: 0.5614  
8 Epoch: 006, Loss: 1.1198, Train Acc: 0.6679, Val  
    Acc: 0.6071, Test Acc: 0.5957  
9 Epoch: 007, Loss: 1.0064, Train Acc: 0.8161, Val  
    Acc: 0.7786, Test Acc: 0.7686  
10 Epoch: 008, Loss: 0.9002, Train Acc: 0.8161, Val  
    Acc: 0.7786, Test Acc: 0.7686  
11 Epoch: 009, Loss: 0.8351, Train Acc: 0.8911, Val  
    Acc: 0.7929, Test Acc: 0.8243  
12 Epoch: 010, Loss: 0.6991, Train Acc: 0.9304, Val  
    Acc: 0.8214, Test Acc: 0.8443  
13 Epoch: 011, Loss: 0.6515, Train Acc: 0.9304, Val  
    Acc: 0.8214, Test Acc: 0.8443  
14 Epoch: 012, Loss: 0.5982, Train Acc: 0.9304, Val  
    Acc: 0.8214, Test Acc: 0.8443  
15 Epoch: 013, Loss: 0.4990, Train Acc: 0.9661, Val  
    Acc: 0.9000, Test Acc: 0.9157  
16 Epoch: 014, Loss: 0.4668, Train Acc: 0.9661, Val  
    Acc: 0.9000, Test Acc: 0.9157  
17 Epoch: 015, Loss: 0.4048, Train Acc: 0.9661, Val  
    Acc: 0.9000, Test Acc: 0.9157  
18 Epoch: 016, Loss: 0.3599, Train Acc: 0.9661, Val  
    Acc: 0.9000, Test Acc: 0.9157  
19 Epoch: 017, Loss: 0.3168, Train Acc: 0.9768, Val  
    Acc: 0.9000, Test Acc: 0.9386  
20 Epoch: 018, Loss: 0.2810, Train Acc: 0.9768, Val
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20 Acc: 0.9000, Test Acc: 0.9386
21 Epoch: 019, Loss: 0.2500, Train Acc: 0.9768, Val
    Acc: 0.9143, Test Acc: 0.9386
22 Epoch: 020, Loss: 0.2248, Train Acc: 0.9804, Val
    Acc: 0.9143, Test Acc: 0.9386
23 Epoch: 021, Loss: 0.1910, Train Acc: 0.9821, Val
    Acc: 0.9143, Test Acc: 0.9386
24 Epoch: 022, Loss: 0.1785, Train Acc: 0.9857, Val
    Acc: 0.9357, Test Acc: 0.9471
25 Epoch: 023, Loss: 0.1515, Train Acc: 0.9857, Val
    Acc: 0.9357, Test Acc: 0.9471
26 Epoch: 024, Loss: 0.1343, Train Acc: 0.9875, Val
    Acc: 0.9357, Test Acc: 0.9471
27 Epoch: 025, Loss: 0.1216, Train Acc: 0.9929, Val
    Acc: 0.9357, Test Acc: 0.9471
28 Epoch: 026, Loss: 0.1075, Train Acc: 0.9929, Val
    Acc: 0.9357, Test Acc: 0.9557
29 Epoch: 027, Loss: 0.0957, Train Acc: 0.9946, Val
    Acc: 0.9357, Test Acc: 0.9586
30 Epoch: 028, Loss: 0.0872, Train Acc: 0.9964, Val
    Acc: 0.9429, Test Acc: 0.9586
31 Epoch: 029, Loss: 0.0774, Train Acc: 0.9964, Val
    Acc: 0.9429, Test Acc: 0.9586
32 Epoch: 030, Loss: 0.0696, Train Acc: 0.9982, Val
    Acc: 0.9429, Test Acc: 0.9586
33 Epoch: 031, Loss: 0.0640, Train Acc: 0.9982, Val
    Acc: 0.9429, Test Acc: 0.9586
34 Epoch: 032, Loss: 0.0573, Train Acc: 0.9982, Val
    Acc: 0.9429, Test Acc: 0.9586
35 Epoch: 033, Loss: 0.0520, Train Acc: 0.9982, Val
    Acc: 0.9500, Test Acc: 0.9614
36 Epoch: 034, Loss: 0.0482, Train Acc: 1.0000, Val
    Acc: 0.9500, Test Acc: 0.9629
37 Epoch: 035, Loss: 0.0440, Train Acc: 1.0000, Val
    Acc: 0.9500, Test Acc: 0.9643
38 Epoch: 036, Loss: 0.0400, Train Acc: 1.0000, Val
    Acc: 0.9500, Test Acc: 0.9643
39 Epoch: 037, Loss: 0.0372, Train Acc: 1.0000, Val
    Acc: 0.9500, Test Acc: 0.9643
40 Epoch: 038, Loss: 0.0345, Train Acc: 1.0000, Val
    Acc: 0.9500, Test Acc: 0.9643
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41 Epoch: 039, Loss: 0.0321, Train Acc: 1.0000, Val  
Acc: 0.9500, Test Acc: 0.9643  
42 Epoch: 040, Loss: 0.0300, Train Acc: 1.0000, Val  
Acc: 0.9500, Test Acc: 0.9643  
43 Epoch: 041, Loss: 0.0281, Train Acc: 1.0000, Val  
Acc: 0.9500, Test Acc: 0.9643  
44 Epoch: 042, Loss: 0.0263, Train Acc: 1.0000, Val  
Acc: 0.9571, Test Acc: 0.9643  
45 Epoch: 043, Loss: 0.0247, Train Acc: 1.0000, Val  
Acc: 0.9643, Test Acc: 0.9643  
46 Epoch: 044, Loss: 0.0233, Train Acc: 1.0000, Val  
Acc: 0.9643, Test Acc: 0.9643  
47 Epoch: 045, Loss: 0.0221, Train Acc: 1.0000, Val  
Acc: 0.9643, Test Acc: 0.9643  
48 Epoch: 046, Loss: 0.0209, Train Acc: 1.0000, Val  
Acc: 0.9643, Test Acc: 0.9643  
49 Epoch: 047, Loss: 0.0199, Train Acc: 1.0000, Val  
Acc: 0.9643, Test Acc: 0.9643  
50 Epoch: 048, Loss: 0.0189, Train Acc: 1.0000, Val  
Acc: 0.9643, Test Acc: 0.9643  
51 Epoch: 049, Loss: 0.0180, Train Acc: 1.0000, Val  
Acc: 0.9643, Test Acc: 0.9643  
52 Epoch: 050, Loss: 0.0172, Train Acc: 1.0000, Val  
Acc: 0.9643, Test Acc: 0.9643  
53 Epoch: 051, Loss: 0.0165, Train Acc: 1.0000, Val  
Acc: 0.9643, Test Acc: 0.9643  
54 Epoch: 052, Loss: 0.0158, Train Acc: 1.0000, Val  
Acc: 0.9643, Test Acc: 0.9643  
55 Epoch: 053, Loss: 0.0152, Train Acc: 1.0000, Val  
Acc: 0.9643, Test Acc: 0.9643  
56 Epoch: 054, Loss: 0.0146, Train Acc: 1.0000, Val  
Acc: 0.9643, Test Acc: 0.9643  
57 Epoch: 055, Loss: 0.0141, Train Acc: 1.0000, Val  
Acc: 0.9643, Test Acc: 0.9643  
58 Epoch: 056, Loss: 0.0136, Train Acc: 1.0000, Val  
Acc: 0.9643, Test Acc: 0.9643  
59 Epoch: 057, Loss: 0.0132, Train Acc: 1.0000, Val  
Acc: 0.9643, Test Acc: 0.9643  
60 Epoch: 058, Loss: 0.0128, Train Acc: 1.0000, Val  
Acc: 0.9643, Test Acc: 0.9643  
61 Epoch: 059, Loss: 0.0124, Train Acc: 1.0000, Val
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61 Acc: 0.9643, Test Acc: 0.9643
62 Epoch: 060, Loss: 0.0120, Train Acc: 1.0000, Val
    Acc: 0.9643, Test Acc: 0.9643
63 Epoch: 061, Loss: 0.0117, Train Acc: 1.0000, Val
    Acc: 0.9643, Test Acc: 0.9643
64 Epoch: 062, Loss: 0.0114, Train Acc: 1.0000, Val
    Acc: 0.9643, Test Acc: 0.9643
65 Epoch: 063, Loss: 0.0111, Train Acc: 1.0000, Val
    Acc: 0.9643, Test Acc: 0.9643
66 Epoch: 064, Loss: 0.0108, Train Acc: 1.0000, Val
    Acc: 0.9643, Test Acc: 0.9643
67 Epoch: 065, Loss: 0.0105, Train Acc: 1.0000, Val
    Acc: 0.9643, Test Acc: 0.9643
68 Epoch: 066, Loss: 0.0103, Train Acc: 1.0000, Val
    Acc: 0.9643, Test Acc: 0.9643
69 Epoch: 067, Loss: 0.0100, Train Acc: 1.0000, Val
    Acc: 0.9643, Test Acc: 0.9643
70 Epoch: 068, Loss: 0.0098, Train Acc: 1.0000, Val
    Acc: 0.9643, Test Acc: 0.9643
71 Epoch: 069, Loss: 0.0096, Train Acc: 1.0000, Val
    Acc: 0.9643, Test Acc: 0.9643
72 Epoch: 070, Loss: 0.0094, Train Acc: 1.0000, Val
    Acc: 0.9643, Test Acc: 0.9643
73 Epoch: 071, Loss: 0.0092, Train Acc: 1.0000, Val
    Acc: 0.9643, Test Acc: 0.9643
74 Epoch: 072, Loss: 0.0090, Train Acc: 1.0000, Val
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75 Epoch: 073, Loss: 0.0088, Train Acc: 1.0000, Val
    Acc: 0.9643, Test Acc: 0.9643
76 Epoch: 074, Loss: 0.0087, Train Acc: 1.0000, Val
    Acc: 0.9643, Test Acc: 0.9643
77 Epoch: 075, Loss: 0.0085, Train Acc: 1.0000, Val
    Acc: 0.9643, Test Acc: 0.9643
78 Epoch: 076, Loss: 0.0084, Train Acc: 1.0000, Val
    Acc: 0.9643, Test Acc: 0.9643
79 Epoch: 077, Loss: 0.0082, Train Acc: 1.0000, Val
    Acc: 0.9643, Test Acc: 0.9643
80 Epoch: 078, Loss: 0.0081, Train Acc: 1.0000, Val
    Acc: 0.9643, Test Acc: 0.9643
81 Epoch: 079, Loss: 0.0080, Train Acc: 1.0000, Val
    Acc: 0.9643, Test Acc: 0.9643
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82 Epoch: 080, Loss: 0.0078, Train Acc: 1.0000, Val  
Acc: 0.9643, Test Acc: 0.9643  
83 Epoch: 081, Loss: 0.0077, Train Acc: 1.0000, Val  
Acc: 0.9643, Test Acc: 0.9643  
84 Epoch: 082, Loss: 0.0076, Train Acc: 1.0000, Val  
Acc: 0.9643, Test Acc: 0.9643  
85 Epoch: 083, Loss: 0.0075, Train Acc: 1.0000, Val  
Acc: 0.9643, Test Acc: 0.9643  
86 Epoch: 084, Loss: 0.0074, Train Acc: 1.0000, Val  
Acc: 0.9643, Test Acc: 0.9643  
87 Epoch: 085, Loss: 0.0073, Train Acc: 1.0000, Val  
Acc: 0.9643, Test Acc: 0.9643  
88 Epoch: 086, Loss: 0.0072, Train Acc: 1.0000, Val  
Acc: 0.9643, Test Acc: 0.9643  
89 Epoch: 087, Loss: 0.0071, Train Acc: 1.0000, Val  
Acc: 0.9643, Test Acc: 0.9643  
90 Epoch: 088, Loss: 0.0070, Train Acc: 1.0000, Val  
Acc: 0.9643, Test Acc: 0.9643  
91 Epoch: 089, Loss: 0.0069, Train Acc: 1.0000, Val  
Acc: 0.9643, Test Acc: 0.9643  
92 Epoch: 090, Loss: 0.0068, Train Acc: 1.0000, Val  
Acc: 0.9643, Test Acc: 0.9643  
93 Epoch: 091, Loss: 0.0067, Train Acc: 1.0000, Val  
Acc: 0.9643, Test Acc: 0.9643  
94 Epoch: 092, Loss: 0.0067, Train Acc: 1.0000, Val  
Acc: 0.9643, Test Acc: 0.9643  
95 Epoch: 093, Loss: 0.0066, Train Acc: 1.0000, Val  
Acc: 0.9643, Test Acc: 0.9643  
96 Epoch: 094, Loss: 0.0065, Train Acc: 1.0000, Val  
Acc: 0.9643, Test Acc: 0.9643  
97 Epoch: 095, Loss: 0.0064, Train Acc: 1.0000, Val  
Acc: 0.9643, Test Acc: 0.9643  
98 Epoch: 096, Loss: 0.0064, Train Acc: 1.0000, Val  
Acc: 0.9643, Test Acc: 0.9643  
99 Epoch: 097, Loss: 0.0063, Train Acc: 1.0000, Val  
Acc: 0.9643, Test Acc: 0.9643  
100 Epoch: 098, Loss: 0.0062, Train Acc: 1.0000, Val  
Acc: 0.9643, Test Acc: 0.9643  
101 Epoch: 099, Loss: 0.0062, Train Acc: 1.0000, Val  
Acc: 0.9643, Test Acc: 0.9643  
102 Epoch: 100, Loss: 0.0061, Train Acc: 1.0000, Val
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102 Acc: 0.9643, Test Acc: 0.9643
103 Epoch: 101, Loss: 0.0060, Train Acc: 1.0000, Val
    Acc: 0.9643, Test Acc: 0.9643
104 Epoch: 102, Loss: 0.0060, Train Acc: 1.0000, Val
    Acc: 0.9643, Test Acc: 0.9643
105 Epoch: 103, Loss: 0.0059, Train Acc: 1.0000, Val
    Acc: 0.9643, Test Acc: 0.9643
106 Epoch: 104, Loss: 0.0059, Train Acc: 1.0000, Val
    Acc: 0.9643, Test Acc: 0.9643
107 Epoch: 105, Loss: 0.0058, Train Acc: 1.0000, Val
    Acc: 0.9643, Test Acc: 0.9643
108 Epoch: 106, Loss: 0.0058, Train Acc: 1.0000, Val
    Acc: 0.9643, Test Acc: 0.9643
109 Epoch: 107, Loss: 0.0057, Train Acc: 1.0000, Val
    Acc: 0.9643, Test Acc: 0.9643
110 Epoch: 108, Loss: 0.0057, Train Acc: 1.0000, Val
    Acc: 0.9643, Test Acc: 0.9643
111 Epoch: 109, Loss: 0.0056, Train Acc: 1.0000, Val
    Acc: 0.9643, Test Acc: 0.9643
112 Epoch: 110, Loss: 0.0056, Train Acc: 1.0000, Val
    Acc: 0.9643, Test Acc: 0.9643
113 Epoch: 111, Loss: 0.0055, Train Acc: 1.0000, Val
    Acc: 0.9643, Test Acc: 0.9643
114 Epoch: 112, Loss: 0.0055, Train Acc: 1.0000, Val
    Acc: 0.9643, Test Acc: 0.9643
115 Epoch: 113, Loss: 0.0054, Train Acc: 1.0000, Val
    Acc: 0.9643, Test Acc: 0.9643
116 Epoch: 114, Loss: 0.0054, Train Acc: 1.0000, Val
    Acc: 0.9643, Test Acc: 0.9643
117 Epoch: 115, Loss: 0.0053, Train Acc: 1.0000, Val
    Acc: 0.9643, Test Acc: 0.9643
118 Epoch: 116, Loss: 0.0053, Train Acc: 1.0000, Val
    Acc: 0.9643, Test Acc: 0.9643
119 Epoch: 117, Loss: 0.0053, Train Acc: 1.0000, Val
    Acc: 0.9643, Test Acc: 0.9643
120 Epoch: 118, Loss: 0.0052, Train Acc: 1.0000, Val
    Acc: 0.9643, Test Acc: 0.9643
121 Epoch: 119, Loss: 0.0052, Train Acc: 1.0000, Val
    Acc: 0.9643, Test Acc: 0.9643
122 Epoch: 120, Loss: 0.0052, Train Acc: 1.0000, Val
    Acc: 0.9643, Test Acc: 0.9643
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123 Epoch: 121, Loss: 0.0051, Train Acc: 1.0000, Val  
    Acc: 0.9643, Test Acc: 0.9643  
124 Epoch: 122, Loss: 0.0051, Train Acc: 1.0000, Val  
    Acc: 0.9643, Test Acc: 0.9643  
125 Epoch: 123, Loss: 0.0051, Train Acc: 1.0000, Val  
    Acc: 0.9643, Test Acc: 0.9643  
126 Epoch: 124, Loss: 0.0050, Train Acc: 1.0000, Val  
    Acc: 0.9643, Test Acc: 0.9643  
127 Epoch: 125, Loss: 0.0050, Train Acc: 1.0000, Val  
    Acc: 0.9643, Test Acc: 0.9643  
128 Epoch: 126, Loss: 0.0050, Train Acc: 1.0000, Val  
    Acc: 0.9643, Test Acc: 0.9643  
129 Epoch: 127, Loss: 0.0049, Train Acc: 1.0000, Val  
    Acc: 0.9643, Test Acc: 0.9643  
130 Epoch: 128, Loss: 0.0049, Train Acc: 1.0000, Val  
    Acc: 0.9643, Test Acc: 0.9643  
131 Epoch: 129, Loss: 0.0049, Train Acc: 1.0000, Val  
    Acc: 0.9643, Test Acc: 0.9643  
132 Epoch: 130, Loss: 0.0048, Train Acc: 1.0000, Val  
    Acc: 0.9643, Test Acc: 0.9643  
133 Epoch: 131, Loss: 0.0048, Train Acc: 1.0000, Val  
    Acc: 0.9643, Test Acc: 0.9643  
134 Epoch: 132, Loss: 0.0048, Train Acc: 1.0000, Val  
    Acc: 0.9643, Test Acc: 0.9643  
135 Epoch: 133, Loss: 0.0048, Train Acc: 1.0000, Val  
    Acc: 0.9643, Test Acc: 0.9643  
136 Epoch: 134, Loss: 0.0047, Train Acc: 1.0000, Val  
    Acc: 0.9643, Test Acc: 0.9643  
137 Epoch: 135, Loss: 0.0047, Train Acc: 1.0000, Val  
    Acc: 0.9643, Test Acc: 0.9643  
138 Epoch: 136, Loss: 0.0047, Train Acc: 1.0000, Val  
    Acc: 0.9643, Test Acc: 0.9643  
139 Epoch: 137, Loss: 0.0047, Train Acc: 1.0000, Val  
    Acc: 0.9643, Test Acc: 0.9643  
140 Epoch: 138, Loss: 0.0046, Train Acc: 1.0000, Val  
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141 Epoch: 139, Loss: 0.0046, Train Acc: 1.0000, Val  
    Acc: 0.9643, Test Acc: 0.9643  
142 Epoch: 140, Loss: 0.0046, Train Acc: 1.0000, Val  
    Acc: 0.9643, Test Acc: 0.9643  
143 Epoch: 141, Loss: 0.0046, Train Acc: 1.0000, Val
```

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143 Acc: 0.9643, Test Acc: 0.9643
144 Epoch: 142, Loss: 0.0046, Train Acc: 1.0000, Val
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145 Epoch: 143, Loss: 0.0045, Train Acc: 1.0000, Val
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146 Epoch: 144, Loss: 0.0045, Train Acc: 1.0000, Val
    Acc: 0.9643, Test Acc: 0.9643
147 Epoch: 145, Loss: 0.0045, Train Acc: 1.0000, Val
    Acc: 0.9643, Test Acc: 0.9643
148 Epoch: 146, Loss: 0.0045, Train Acc: 1.0000, Val
    Acc: 0.9643, Test Acc: 0.9643
149 Epoch: 147, Loss: 0.0045, Train Acc: 1.0000, Val
    Acc: 0.9643, Test Acc: 0.9643
150 Epoch: 148, Loss: 0.0044, Train Acc: 1.0000, Val
    Acc: 0.9643, Test Acc: 0.9643
151 Epoch: 149, Loss: 0.0044, Train Acc: 1.0000, Val
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152 Epoch: 150, Loss: 0.0044, Train Acc: 1.0000, Val
    Acc: 0.9643, Test Acc: 0.9643
153 Epoch: 151, Loss: 0.0044, Train Acc: 1.0000, Val
    Acc: 0.9643, Test Acc: 0.9643
154 Epoch: 152, Loss: 0.0044, Train Acc: 1.0000, Val
    Acc: 0.9643, Test Acc: 0.9643
155 Epoch: 153, Loss: 0.0044, Train Acc: 1.0000, Val
    Acc: 0.9643, Test Acc: 0.9643
156 Epoch: 154, Loss: 0.0043, Train Acc: 1.0000, Val
    Acc: 0.9643, Test Acc: 0.9643
157 Epoch: 155, Loss: 0.0043, Train Acc: 1.0000, Val
    Acc: 0.9643, Test Acc: 0.9643
158 Epoch: 156, Loss: 0.0043, Train Acc: 1.0000, Val
    Acc: 0.9643, Test Acc: 0.9643
159 Epoch: 157, Loss: 0.0043, Train Acc: 1.0000, Val
    Acc: 0.9643, Test Acc: 0.9643
160 Epoch: 158, Loss: 0.0043, Train Acc: 1.0000, Val
    Acc: 0.9643, Test Acc: 0.9643
161 Epoch: 159, Loss: 0.0043, Train Acc: 1.0000, Val
    Acc: 0.9643, Test Acc: 0.9643
162 Epoch: 160, Loss: 0.0043, Train Acc: 1.0000, Val
    Acc: 0.9643, Test Acc: 0.9643
163 Epoch: 161, Loss: 0.0042, Train Acc: 1.0000, Val
    Acc: 0.9643, Test Acc: 0.9643
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164 Epoch: 162, Loss: 0.0042, Train Acc: 1.0000, Val  
Acc: 0.9643, Test Acc: 0.9643  
165 Epoch: 163, Loss: 0.0042, Train Acc: 1.0000, Val  
Acc: 0.9643, Test Acc: 0.9643  
166 Epoch: 164, Loss: 0.0042, Train Acc: 1.0000, Val  
Acc: 0.9643, Test Acc: 0.9643  
167 Epoch: 165, Loss: 0.0042, Train Acc: 1.0000, Val  
Acc: 0.9643, Test Acc: 0.9643  
168 Epoch: 166, Loss: 0.0042, Train Acc: 1.0000, Val  
Acc: 0.9643, Test Acc: 0.9643  
169 Epoch: 167, Loss: 0.0042, Train Acc: 1.0000, Val  
Acc: 0.9643, Test Acc: 0.9643  
170 Epoch: 168, Loss: 0.0042, Train Acc: 1.0000, Val  
Acc: 0.9643, Test Acc: 0.9643  
171 Epoch: 169, Loss: 0.0042, Train Acc: 1.0000, Val  
Acc: 0.9643, Test Acc: 0.9643  
172 Epoch: 170, Loss: 0.0041, Train Acc: 1.0000, Val  
Acc: 0.9643, Test Acc: 0.9643  
173 Epoch: 171, Loss: 0.0041, Train Acc: 1.0000, Val  
Acc: 0.9643, Test Acc: 0.9643  
174 Epoch: 172, Loss: 0.0041, Train Acc: 1.0000, Val  
Acc: 0.9643, Test Acc: 0.9643  
175 Epoch: 173, Loss: 0.0041, Train Acc: 1.0000, Val  
Acc: 0.9643, Test Acc: 0.9643  
176 Epoch: 174, Loss: 0.0041, Train Acc: 1.0000, Val  
Acc: 0.9643, Test Acc: 0.9643  
177 Epoch: 175, Loss: 0.0041, Train Acc: 1.0000, Val  
Acc: 0.9643, Test Acc: 0.9643  
178 Epoch: 176, Loss: 0.0041, Train Acc: 1.0000, Val  
Acc: 0.9643, Test Acc: 0.9643  
179 Epoch: 177, Loss: 0.0041, Train Acc: 1.0000, Val  
Acc: 0.9643, Test Acc: 0.9643  
180 Epoch: 178, Loss: 0.0041, Train Acc: 1.0000, Val  
Acc: 0.9643, Test Acc: 0.9643  
181 Epoch: 179, Loss: 0.0041, Train Acc: 1.0000, Val  
Acc: 0.9643, Test Acc: 0.9643  
182 Epoch: 180, Loss: 0.0041, Train Acc: 1.0000, Val  
Acc: 0.9643, Test Acc: 0.9643  
183 Epoch: 181, Loss: 0.0040, Train Acc: 1.0000, Val  
Acc: 0.9643, Test Acc: 0.9643  
184 Epoch: 182, Loss: 0.0040, Train Acc: 1.0000, Val
```

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184 Acc: 0.9643, Test Acc: 0.9643
185 Epoch: 183, Loss: 0.0040, Train Acc: 1.0000, Val
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186 Epoch: 184, Loss: 0.0040, Train Acc: 1.0000, Val
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187 Epoch: 185, Loss: 0.0040, Train Acc: 1.0000, Val
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188 Epoch: 186, Loss: 0.0040, Train Acc: 1.0000, Val
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189 Epoch: 187, Loss: 0.0040, Train Acc: 1.0000, Val
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190 Epoch: 188, Loss: 0.0040, Train Acc: 1.0000, Val
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191 Epoch: 189, Loss: 0.0040, Train Acc: 1.0000, Val
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192 Epoch: 190, Loss: 0.0040, Train Acc: 1.0000, Val
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193 Epoch: 191, Loss: 0.0040, Train Acc: 1.0000, Val
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194 Epoch: 192, Loss: 0.0040, Train Acc: 1.0000, Val
    Acc: 0.9643, Test Acc: 0.9643
195 Epoch: 193, Loss: 0.0040, Train Acc: 1.0000, Val
    Acc: 0.9643, Test Acc: 0.9643
196 Epoch: 194, Loss: 0.0040, Train Acc: 1.0000, Val
    Acc: 0.9643, Test Acc: 0.9643
197 Epoch: 195, Loss: 0.0039, Train Acc: 1.0000, Val
    Acc: 0.9643, Test Acc: 0.9643
198 Epoch: 196, Loss: 0.0039, Train Acc: 1.0000, Val
    Acc: 0.9643, Test Acc: 0.9643
199 Epoch: 197, Loss: 0.0039, Train Acc: 1.0000, Val
    Acc: 0.9643, Test Acc: 0.9643
200 Epoch: 198, Loss: 0.0039, Train Acc: 1.0000, Val
    Acc: 0.9643, Test Acc: 0.9643
201 Epoch: 199, Loss: 0.0039, Train Acc: 1.0000, Val
    Acc: 0.9643, Test Acc: 0.9643
202 Epoch: 200, Loss: 0.0039, Train Acc: 1.0000, Val
    Acc: 0.9643, Test Acc: 0.9643
203 Data(x=[1300, 512], edge_index=[2, 9100],
    edge_attr=[9100], y=[1300], test_mask=[1300],
    train_mask=[1300], val_mask=[1300])
204 Epoch: 001, Loss: 1.8711, Train Acc: 0.3543, Val
```

```
204 Epoch: 002, Loss: 1.6691, Train Acc: 0.3848, Val  
Acc: 0.3214, Test Acc: 0.3243  
205 Epoch: 003, Loss: 1.5199, Train Acc: 0.5413, Val  
Acc: 0.4786, Test Acc: 0.4857  
206 Epoch: 004, Loss: 1.4540, Train Acc: 0.5957, Val  
Acc: 0.4857, Test Acc: 0.5057  
207 Epoch: 005, Loss: 1.3409, Train Acc: 0.5957, Val  
Acc: 0.4857, Test Acc: 0.5057  
208 Epoch: 006, Loss: 1.2043, Train Acc: 0.6196, Val  
Acc: 0.4929, Test Acc: 0.5371  
209 Epoch: 007, Loss: 1.0597, Train Acc: 0.7283, Val  
Acc: 0.6286, Test Acc: 0.6229  
210 Epoch: 008, Loss: 0.9632, Train Acc: 0.7696, Val  
Acc: 0.7071, Test Acc: 0.6743  
211 Epoch: 009, Loss: 0.8590, Train Acc: 0.7696, Val  
Acc: 0.7071, Test Acc: 0.6743  
212 Epoch: 010, Loss: 0.9182, Train Acc: 0.8457, Val  
Acc: 0.7786, Test Acc: 0.7600  
213 Epoch: 011, Loss: 0.7309, Train Acc: 0.8457, Val  
Acc: 0.7786, Test Acc: 0.7686  
214 Epoch: 012, Loss: 0.7574, Train Acc: 0.8457, Val  
Acc: 0.7786, Test Acc: 0.7686  
215 Epoch: 013, Loss: 0.6062, Train Acc: 0.8457, Val  
Acc: 0.7786, Test Acc: 0.7686  
216 Epoch: 014, Loss: 0.5853, Train Acc: 0.9348, Val  
Acc: 0.8357, Test Acc: 0.8529  
217 Epoch: 015, Loss: 0.4782, Train Acc: 0.9478, Val  
Acc: 0.8929, Test Acc: 0.8743  
218 Epoch: 016, Loss: 0.4654, Train Acc: 0.9522, Val  
Acc: 0.9071, Test Acc: 0.8900  
219 Epoch: 017, Loss: 0.3881, Train Acc: 0.9522, Val  
Acc: 0.9071, Test Acc: 0.8900  
220 Epoch: 018, Loss: 0.3545, Train Acc: 0.9522, Val  
Acc: 0.9071, Test Acc: 0.8900  
221 Epoch: 019, Loss: 0.3214, Train Acc: 0.9739, Val  
Acc: 0.9071, Test Acc: 0.9071  
222 Epoch: 020, Loss: 0.2763, Train Acc: 0.9739, Val  
Acc: 0.9286, Test Acc: 0.9071  
223 Epoch: 021, Loss: 0.2565, Train Acc: 0.9783, Val  
Acc: 0.9286, Test Acc: 0.9171
```

```
225 Epoch: 022, Loss: 0.2198, Train Acc: 0.9783, Val  
Acc: 0.9286, Test Acc: 0.9171  
226 Epoch: 023, Loss: 0.2000, Train Acc: 0.9826, Val  
Acc: 0.9286, Test Acc: 0.9171  
227 Epoch: 024, Loss: 0.1802, Train Acc: 0.9848, Val  
Acc: 0.9286, Test Acc: 0.9186  
228 Epoch: 025, Loss: 0.1570, Train Acc: 0.9891, Val  
Acc: 0.9286, Test Acc: 0.9329  
229 Epoch: 026, Loss: 0.1404, Train Acc: 0.9913, Val  
Acc: 0.9286, Test Acc: 0.9329  
230 Epoch: 027, Loss: 0.1237, Train Acc: 0.9935, Val  
Acc: 0.9286, Test Acc: 0.9329  
231 Epoch: 028, Loss: 0.1119, Train Acc: 0.9935, Val  
Acc: 0.9286, Test Acc: 0.9329  
232 Epoch: 029, Loss: 0.0991, Train Acc: 0.9978, Val  
Acc: 0.9286, Test Acc: 0.9357  
233 Epoch: 030, Loss: 0.0890, Train Acc: 1.0000, Val  
Acc: 0.9286, Test Acc: 0.9357  
234 Epoch: 031, Loss: 0.0788, Train Acc: 1.0000, Val  
Acc: 0.9286, Test Acc: 0.9357  
235 Epoch: 032, Loss: 0.0711, Train Acc: 1.0000, Val  
Acc: 0.9286, Test Acc: 0.9529  
236 Epoch: 033, Loss: 0.0635, Train Acc: 1.0000, Val  
Acc: 0.9286, Test Acc: 0.9529  
237 Epoch: 034, Loss: 0.0581, Train Acc: 1.0000, Val  
Acc: 0.9286, Test Acc: 0.9529  
238 Epoch: 035, Loss: 0.0522, Train Acc: 1.0000, Val  
Acc: 0.9286, Test Acc: 0.9529  
239 Epoch: 036, Loss: 0.0475, Train Acc: 1.0000, Val  
Acc: 0.9286, Test Acc: 0.9529  
240 Epoch: 037, Loss: 0.0437, Train Acc: 1.0000, Val  
Acc: 0.9286, Test Acc: 0.9586  
241 Epoch: 038, Loss: 0.0393, Train Acc: 1.0000, Val  
Acc: 0.9286, Test Acc: 0.9586  
242 Epoch: 039, Loss: 0.0368, Train Acc: 1.0000, Val  
Acc: 0.9286, Test Acc: 0.9586  
243 Epoch: 040, Loss: 0.0344, Train Acc: 1.0000, Val  
Acc: 0.9286, Test Acc: 0.9586  
244 Epoch: 041, Loss: 0.0319, Train Acc: 1.0000, Val  
Acc: 0.9286, Test Acc: 0.9586  
245 Epoch: 042, Loss: 0.0297, Train Acc: 1.0000, Val
```

```
245 Acc: 0.9286, Test Acc: 0.9586
246 Epoch: 043, Loss: 0.0279, Train Acc: 1.0000, Val
    Acc: 0.9286, Test Acc: 0.9586
247 Epoch: 044, Loss: 0.0263, Train Acc: 1.0000, Val
    Acc: 0.9286, Test Acc: 0.9586
248 Epoch: 045, Loss: 0.0246, Train Acc: 1.0000, Val
    Acc: 0.9286, Test Acc: 0.9586
249 Epoch: 046, Loss: 0.0232, Train Acc: 1.0000, Val
    Acc: 0.9286, Test Acc: 0.9586
250 Epoch: 047, Loss: 0.0220, Train Acc: 1.0000, Val
    Acc: 0.9286, Test Acc: 0.9586
251 Epoch: 048, Loss: 0.0210, Train Acc: 1.0000, Val
    Acc: 0.9286, Test Acc: 0.9586
252 Epoch: 049, Loss: 0.0200, Train Acc: 1.0000, Val
    Acc: 0.9286, Test Acc: 0.9586
253 Epoch: 050, Loss: 0.0190, Train Acc: 1.0000, Val
    Acc: 0.9286, Test Acc: 0.9586
254 Epoch: 051, Loss: 0.0182, Train Acc: 1.0000, Val
    Acc: 0.9286, Test Acc: 0.9586
255 Epoch: 052, Loss: 0.0174, Train Acc: 1.0000, Val
    Acc: 0.9357, Test Acc: 0.9586
256 Epoch: 053, Loss: 0.0167, Train Acc: 1.0000, Val
    Acc: 0.9357, Test Acc: 0.9586
257 Epoch: 054, Loss: 0.0161, Train Acc: 1.0000, Val
    Acc: 0.9357, Test Acc: 0.9586
258 Epoch: 055, Loss: 0.0155, Train Acc: 1.0000, Val
    Acc: 0.9357, Test Acc: 0.9586
259 Epoch: 056, Loss: 0.0149, Train Acc: 1.0000, Val
    Acc: 0.9357, Test Acc: 0.9586
260 Epoch: 057, Loss: 0.0144, Train Acc: 1.0000, Val
    Acc: 0.9357, Test Acc: 0.9586
261 Epoch: 058, Loss: 0.0139, Train Acc: 1.0000, Val
    Acc: 0.9357, Test Acc: 0.9586
262 Epoch: 059, Loss: 0.0135, Train Acc: 1.0000, Val
    Acc: 0.9357, Test Acc: 0.9586
263 Epoch: 060, Loss: 0.0131, Train Acc: 1.0000, Val
    Acc: 0.9357, Test Acc: 0.9586
264 Epoch: 061, Loss: 0.0127, Train Acc: 1.0000, Val
    Acc: 0.9429, Test Acc: 0.9586
265 Epoch: 062, Loss: 0.0123, Train Acc: 1.0000, Val
    Acc: 0.9429, Test Acc: 0.9586
```

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266 Epoch: 063, Loss: 0.0120, Train Acc: 1.0000, Val  
Acc: 0.9429, Test Acc: 0.9586  
267 Epoch: 064, Loss: 0.0117, Train Acc: 1.0000, Val  
Acc: 0.9429, Test Acc: 0.9586  
268 Epoch: 065, Loss: 0.0114, Train Acc: 1.0000, Val  
Acc: 0.9429, Test Acc: 0.9586  
269 Epoch: 066, Loss: 0.0111, Train Acc: 1.0000, Val  
Acc: 0.9429, Test Acc: 0.9586  
270 Epoch: 067, Loss: 0.0108, Train Acc: 1.0000, Val  
Acc: 0.9429, Test Acc: 0.9586  
271 Epoch: 068, Loss: 0.0106, Train Acc: 1.0000, Val  
Acc: 0.9429, Test Acc: 0.9586  
272 Epoch: 069, Loss: 0.0104, Train Acc: 1.0000, Val  
Acc: 0.9429, Test Acc: 0.9586  
273 Epoch: 070, Loss: 0.0101, Train Acc: 1.0000, Val  
Acc: 0.9429, Test Acc: 0.9586  
274 Epoch: 071, Loss: 0.0099, Train Acc: 1.0000, Val  
Acc: 0.9429, Test Acc: 0.9586  
275 Epoch: 072, Loss: 0.0097, Train Acc: 1.0000, Val  
Acc: 0.9429, Test Acc: 0.9586  
276 Epoch: 073, Loss: 0.0095, Train Acc: 1.0000, Val  
Acc: 0.9500, Test Acc: 0.9600  
277 Epoch: 074, Loss: 0.0094, Train Acc: 1.0000, Val  
Acc: 0.9500, Test Acc: 0.9600  
278 Epoch: 075, Loss: 0.0092, Train Acc: 1.0000, Val  
Acc: 0.9500, Test Acc: 0.9600  
279 Epoch: 076, Loss: 0.0090, Train Acc: 1.0000, Val  
Acc: 0.9500, Test Acc: 0.9600  
280 Epoch: 077, Loss: 0.0089, Train Acc: 1.0000, Val  
Acc: 0.9500, Test Acc: 0.9600  
281 Epoch: 078, Loss: 0.0087, Train Acc: 1.0000, Val  
Acc: 0.9500, Test Acc: 0.9600  
282 Epoch: 079, Loss: 0.0086, Train Acc: 1.0000, Val  
Acc: 0.9500, Test Acc: 0.9600  
283 Epoch: 080, Loss: 0.0084, Train Acc: 1.0000, Val  
Acc: 0.9500, Test Acc: 0.9600  
284 Epoch: 081, Loss: 0.0083, Train Acc: 1.0000, Val  
Acc: 0.9500, Test Acc: 0.9600  
285 Epoch: 082, Loss: 0.0082, Train Acc: 1.0000, Val  
Acc: 0.9500, Test Acc: 0.9600  
286 Epoch: 083, Loss: 0.0080, Train Acc: 1.0000, Val
```

```
286 Acc: 0.9500, Test Acc: 0.9600
287 Epoch: 084, Loss: 0.0079, Train Acc: 1.0000, Val
    Acc: 0.9500, Test Acc: 0.9600
288 Epoch: 085, Loss: 0.0078, Train Acc: 1.0000, Val
    Acc: 0.9500, Test Acc: 0.9600
289 Epoch: 086, Loss: 0.0077, Train Acc: 1.0000, Val
    Acc: 0.9500, Test Acc: 0.9600
290 Epoch: 087, Loss: 0.0076, Train Acc: 1.0000, Val
    Acc: 0.9500, Test Acc: 0.9600
291 Epoch: 088, Loss: 0.0075, Train Acc: 1.0000, Val
    Acc: 0.9500, Test Acc: 0.9600
292 Epoch: 089, Loss: 0.0074, Train Acc: 1.0000, Val
    Acc: 0.9500, Test Acc: 0.9600
293 Epoch: 090, Loss: 0.0073, Train Acc: 1.0000, Val
    Acc: 0.9500, Test Acc: 0.9600
294 Epoch: 091, Loss: 0.0072, Train Acc: 1.0000, Val
    Acc: 0.9500, Test Acc: 0.9600
295 Epoch: 092, Loss: 0.0071, Train Acc: 1.0000, Val
    Acc: 0.9500, Test Acc: 0.9600
296 Epoch: 093, Loss: 0.0070, Train Acc: 1.0000, Val
    Acc: 0.9500, Test Acc: 0.9600
297 Epoch: 094, Loss: 0.0070, Train Acc: 1.0000, Val
    Acc: 0.9500, Test Acc: 0.9600
298 Epoch: 095, Loss: 0.0069, Train Acc: 1.0000, Val
    Acc: 0.9500, Test Acc: 0.9600
299 Epoch: 096, Loss: 0.0068, Train Acc: 1.0000, Val
    Acc: 0.9500, Test Acc: 0.9600
300 Epoch: 097, Loss: 0.0067, Train Acc: 1.0000, Val
    Acc: 0.9500, Test Acc: 0.9600
301 Epoch: 098, Loss: 0.0067, Train Acc: 1.0000, Val
    Acc: 0.9500, Test Acc: 0.9600
302 Epoch: 099, Loss: 0.0066, Train Acc: 1.0000, Val
    Acc: 0.9500, Test Acc: 0.9600
303 Epoch: 100, Loss: 0.0065, Train Acc: 1.0000, Val
    Acc: 0.9500, Test Acc: 0.9600
304 Epoch: 101, Loss: 0.0065, Train Acc: 1.0000, Val
    Acc: 0.9500, Test Acc: 0.9600
305 Epoch: 102, Loss: 0.0064, Train Acc: 1.0000, Val
    Acc: 0.9500, Test Acc: 0.9600
306 Epoch: 103, Loss: 0.0063, Train Acc: 1.0000, Val
    Acc: 0.9500, Test Acc: 0.9600
```

```
307 Epoch: 104, Loss: 0.0063, Train Acc: 1.0000, Val  
Acc: 0.9500, Test Acc: 0.9600  
308 Epoch: 105, Loss: 0.0062, Train Acc: 1.0000, Val  
Acc: 0.9500, Test Acc: 0.9600  
309 Epoch: 106, Loss: 0.0062, Train Acc: 1.0000, Val  
Acc: 0.9500, Test Acc: 0.9600  
310 Epoch: 107, Loss: 0.0061, Train Acc: 1.0000, Val  
Acc: 0.9500, Test Acc: 0.9600  
311 Epoch: 108, Loss: 0.0060, Train Acc: 1.0000, Val  
Acc: 0.9500, Test Acc: 0.9600  
312 Epoch: 109, Loss: 0.0060, Train Acc: 1.0000, Val  
Acc: 0.9500, Test Acc: 0.9600  
313 Epoch: 110, Loss: 0.0059, Train Acc: 1.0000, Val  
Acc: 0.9500, Test Acc: 0.9600  
314 Epoch: 111, Loss: 0.0059, Train Acc: 1.0000, Val  
Acc: 0.9500, Test Acc: 0.9600  
315 Epoch: 112, Loss: 0.0058, Train Acc: 1.0000, Val  
Acc: 0.9500, Test Acc: 0.9600  
316 Epoch: 113, Loss: 0.0058, Train Acc: 1.0000, Val  
Acc: 0.9500, Test Acc: 0.9600  
317 Epoch: 114, Loss: 0.0057, Train Acc: 1.0000, Val  
Acc: 0.9500, Test Acc: 0.9600  
318 Epoch: 115, Loss: 0.0057, Train Acc: 1.0000, Val  
Acc: 0.9500, Test Acc: 0.9600  
319 Epoch: 116, Loss: 0.0057, Train Acc: 1.0000, Val  
Acc: 0.9500, Test Acc: 0.9600  
320 Epoch: 117, Loss: 0.0056, Train Acc: 1.0000, Val  
Acc: 0.9500, Test Acc: 0.9600  
321 Epoch: 118, Loss: 0.0056, Train Acc: 1.0000, Val  
Acc: 0.9500, Test Acc: 0.9600  
322 Epoch: 119, Loss: 0.0055, Train Acc: 1.0000, Val  
Acc: 0.9500, Test Acc: 0.9600  
323 Epoch: 120, Loss: 0.0055, Train Acc: 1.0000, Val  
Acc: 0.9500, Test Acc: 0.9600  
324 Epoch: 121, Loss: 0.0055, Train Acc: 1.0000, Val  
Acc: 0.9500, Test Acc: 0.9600  
325 Epoch: 122, Loss: 0.0054, Train Acc: 1.0000, Val  
Acc: 0.9500, Test Acc: 0.9600  
326 Epoch: 123, Loss: 0.0054, Train Acc: 1.0000, Val  
Acc: 0.9500, Test Acc: 0.9600  
327 Epoch: 124, Loss: 0.0054, Train Acc: 1.0000, Val
```

```
327 Acc: 0.9500, Test Acc: 0.9600
328 Epoch: 125, Loss: 0.0053, Train Acc: 1.0000, Val
    Acc: 0.9500, Test Acc: 0.9600
329 Epoch: 126, Loss: 0.0053, Train Acc: 1.0000, Val
    Acc: 0.9500, Test Acc: 0.9600
330 Epoch: 127, Loss: 0.0053, Train Acc: 1.0000, Val
    Acc: 0.9500, Test Acc: 0.9600
331 Epoch: 128, Loss: 0.0052, Train Acc: 1.0000, Val
    Acc: 0.9500, Test Acc: 0.9600
332 Epoch: 129, Loss: 0.0052, Train Acc: 1.0000, Val
    Acc: 0.9500, Test Acc: 0.9600
333 Epoch: 130, Loss: 0.0052, Train Acc: 1.0000, Val
    Acc: 0.9500, Test Acc: 0.9600
334 Epoch: 131, Loss: 0.0051, Train Acc: 1.0000, Val
    Acc: 0.9500, Test Acc: 0.9600
335 Epoch: 132, Loss: 0.0051, Train Acc: 1.0000, Val
    Acc: 0.9500, Test Acc: 0.9600
336 Epoch: 133, Loss: 0.0051, Train Acc: 1.0000, Val
    Acc: 0.9500, Test Acc: 0.9600
337 Epoch: 134, Loss: 0.0050, Train Acc: 1.0000, Val
    Acc: 0.9500, Test Acc: 0.9600
338 Epoch: 135, Loss: 0.0050, Train Acc: 1.0000, Val
    Acc: 0.9500, Test Acc: 0.9600
339 Epoch: 136, Loss: 0.0050, Train Acc: 1.0000, Val
    Acc: 0.9500, Test Acc: 0.9600
340 Epoch: 137, Loss: 0.0050, Train Acc: 1.0000, Val
    Acc: 0.9500, Test Acc: 0.9600
341 Epoch: 138, Loss: 0.0049, Train Acc: 1.0000, Val
    Acc: 0.9500, Test Acc: 0.9600
342 Epoch: 139, Loss: 0.0049, Train Acc: 1.0000, Val
    Acc: 0.9500, Test Acc: 0.9600
343 Epoch: 140, Loss: 0.0049, Train Acc: 1.0000, Val
    Acc: 0.9500, Test Acc: 0.9600
344 Epoch: 141, Loss: 0.0049, Train Acc: 1.0000, Val
    Acc: 0.9500, Test Acc: 0.9600
345 Epoch: 142, Loss: 0.0048, Train Acc: 1.0000, Val
    Acc: 0.9500, Test Acc: 0.9600
346 Epoch: 143, Loss: 0.0048, Train Acc: 1.0000, Val
    Acc: 0.9500, Test Acc: 0.9600
347 Epoch: 144, Loss: 0.0048, Train Acc: 1.0000, Val
    Acc: 0.9500, Test Acc: 0.9600
```

```
348 Epoch: 145, Loss: 0.0048, Train Acc: 1.0000, Val  
Acc: 0.9500, Test Acc: 0.9600  
349 Epoch: 146, Loss: 0.0048, Train Acc: 1.0000, Val  
Acc: 0.9500, Test Acc: 0.9600  
350 Epoch: 147, Loss: 0.0047, Train Acc: 1.0000, Val  
Acc: 0.9500, Test Acc: 0.9600  
351 Epoch: 148, Loss: 0.0047, Train Acc: 1.0000, Val  
Acc: 0.9500, Test Acc: 0.9600  
352 Epoch: 149, Loss: 0.0047, Train Acc: 1.0000, Val  
Acc: 0.9500, Test Acc: 0.9600  
353 Epoch: 150, Loss: 0.0047, Train Acc: 1.0000, Val  
Acc: 0.9500, Test Acc: 0.9600  
354 Epoch: 151, Loss: 0.0047, Train Acc: 1.0000, Val  
Acc: 0.9500, Test Acc: 0.9600  
355 Epoch: 152, Loss: 0.0047, Train Acc: 1.0000, Val  
Acc: 0.9500, Test Acc: 0.9600  
356 Epoch: 153, Loss: 0.0046, Train Acc: 1.0000, Val  
Acc: 0.9500, Test Acc: 0.9600  
357 Epoch: 154, Loss: 0.0046, Train Acc: 1.0000, Val  
Acc: 0.9500, Test Acc: 0.9600  
358 Epoch: 155, Loss: 0.0046, Train Acc: 1.0000, Val  
Acc: 0.9500, Test Acc: 0.9600  
359 Epoch: 156, Loss: 0.0046, Train Acc: 1.0000, Val  
Acc: 0.9500, Test Acc: 0.9600  
360 Epoch: 157, Loss: 0.0046, Train Acc: 1.0000, Val  
Acc: 0.9500, Test Acc: 0.9600  
361 Epoch: 158, Loss: 0.0046, Train Acc: 1.0000, Val  
Acc: 0.9500, Test Acc: 0.9600  
362 Epoch: 159, Loss: 0.0045, Train Acc: 1.0000, Val  
Acc: 0.9500, Test Acc: 0.9600  
363 Epoch: 160, Loss: 0.0045, Train Acc: 1.0000, Val  
Acc: 0.9500, Test Acc: 0.9600  
364 Epoch: 161, Loss: 0.0045, Train Acc: 1.0000, Val  
Acc: 0.9500, Test Acc: 0.9600  
365 Epoch: 162, Loss: 0.0045, Train Acc: 1.0000, Val  
Acc: 0.9500, Test Acc: 0.9600  
366 Epoch: 163, Loss: 0.0045, Train Acc: 1.0000, Val  
Acc: 0.9500, Test Acc: 0.9600  
367 Epoch: 164, Loss: 0.0045, Train Acc: 1.0000, Val  
Acc: 0.9500, Test Acc: 0.9600  
368 Epoch: 165, Loss: 0.0045, Train Acc: 1.0000, Val
```

```
368 Acc: 0.9500, Test Acc: 0.9600
369 Epoch: 166, Loss: 0.0045, Train Acc: 1.0000, Val
    Acc: 0.9500, Test Acc: 0.9600
370 Epoch: 167, Loss: 0.0044, Train Acc: 1.0000, Val
    Acc: 0.9500, Test Acc: 0.9600
371 Epoch: 168, Loss: 0.0044, Train Acc: 1.0000, Val
    Acc: 0.9500, Test Acc: 0.9600
372 Epoch: 169, Loss: 0.0044, Train Acc: 1.0000, Val
    Acc: 0.9500, Test Acc: 0.9600
373 Epoch: 170, Loss: 0.0044, Train Acc: 1.0000, Val
    Acc: 0.9500, Test Acc: 0.9600
374 Epoch: 171, Loss: 0.0044, Train Acc: 1.0000, Val
    Acc: 0.9500, Test Acc: 0.9600
375 Epoch: 172, Loss: 0.0044, Train Acc: 1.0000, Val
    Acc: 0.9500, Test Acc: 0.9600
376 Epoch: 173, Loss: 0.0044, Train Acc: 1.0000, Val
    Acc: 0.9500, Test Acc: 0.9600
377 Epoch: 174, Loss: 0.0044, Train Acc: 1.0000, Val
    Acc: 0.9500, Test Acc: 0.9600
378 Epoch: 175, Loss: 0.0044, Train Acc: 1.0000, Val
    Acc: 0.9500, Test Acc: 0.9600
379 Epoch: 176, Loss: 0.0043, Train Acc: 1.0000, Val
    Acc: 0.9500, Test Acc: 0.9600
380 Epoch: 177, Loss: 0.0043, Train Acc: 1.0000, Val
    Acc: 0.9500, Test Acc: 0.9600
381 Epoch: 178, Loss: 0.0043, Train Acc: 1.0000, Val
    Acc: 0.9500, Test Acc: 0.9600
382 Epoch: 179, Loss: 0.0043, Train Acc: 1.0000, Val
    Acc: 0.9500, Test Acc: 0.9600
383 Epoch: 180, Loss: 0.0043, Train Acc: 1.0000, Val
    Acc: 0.9500, Test Acc: 0.9600
384 Epoch: 181, Loss: 0.0043, Train Acc: 1.0000, Val
    Acc: 0.9500, Test Acc: 0.9600
385 Epoch: 182, Loss: 0.0043, Train Acc: 1.0000, Val
    Acc: 0.9500, Test Acc: 0.9600
386 Epoch: 183, Loss: 0.0043, Train Acc: 1.0000, Val
    Acc: 0.9500, Test Acc: 0.9600
387 Epoch: 184, Loss: 0.0043, Train Acc: 1.0000, Val
    Acc: 0.9500, Test Acc: 0.9600
388 Epoch: 185, Loss: 0.0043, Train Acc: 1.0000, Val
    Acc: 0.9500, Test Acc: 0.9600
```

```
389 Epoch: 186, Loss: 0.0043, Train Acc: 1.0000, Val  
Acc: 0.9500, Test Acc: 0.9600  
390 Epoch: 187, Loss: 0.0043, Train Acc: 1.0000, Val  
Acc: 0.9500, Test Acc: 0.9600  
391 Epoch: 188, Loss: 0.0042, Train Acc: 1.0000, Val  
Acc: 0.9500, Test Acc: 0.9600  
392 Epoch: 189, Loss: 0.0042, Train Acc: 1.0000, Val  
Acc: 0.9500, Test Acc: 0.9600  
393 Epoch: 190, Loss: 0.0042, Train Acc: 1.0000, Val  
Acc: 0.9500, Test Acc: 0.9600  
394 Epoch: 191, Loss: 0.0042, Train Acc: 1.0000, Val  
Acc: 0.9500, Test Acc: 0.9600  
395 Epoch: 192, Loss: 0.0042, Train Acc: 1.0000, Val  
Acc: 0.9500, Test Acc: 0.9600  
396 Epoch: 193, Loss: 0.0042, Train Acc: 1.0000, Val  
Acc: 0.9500, Test Acc: 0.9600  
397 Epoch: 194, Loss: 0.0042, Train Acc: 1.0000, Val  
Acc: 0.9500, Test Acc: 0.9600  
398 Epoch: 195, Loss: 0.0042, Train Acc: 1.0000, Val  
Acc: 0.9500, Test Acc: 0.9600  
399 Epoch: 196, Loss: 0.0042, Train Acc: 1.0000, Val  
Acc: 0.9500, Test Acc: 0.9600  
400 Epoch: 197, Loss: 0.0042, Train Acc: 1.0000, Val  
Acc: 0.9500, Test Acc: 0.9600  
401 Epoch: 198, Loss: 0.0042, Train Acc: 1.0000, Val  
Acc: 0.9500, Test Acc: 0.9600  
402 Epoch: 199, Loss: 0.0042, Train Acc: 1.0000, Val  
Acc: 0.9500, Test Acc: 0.9600  
403 Epoch: 200, Loss: 0.0042, Train Acc: 1.0000, Val  
Acc: 0.9500, Test Acc: 0.9600  
404 Data(x=[1200, 512], edge_index=[2, 8400],  
edge_attr=[8400], y=[1200], test_mask=[1200],  
train_mask=[1200], val_mask=[1200])  
405 Epoch: 001, Loss: 1.8897, Train Acc: 0.4528, Val  
Acc: 0.2929, Test Acc: 0.2800  
406 Epoch: 002, Loss: 1.5310, Train Acc: 0.4528, Val  
Acc: 0.2929, Test Acc: 0.2800  
407 Epoch: 003, Loss: 1.4585, Train Acc: 0.4528, Val  
Acc: 0.2929, Test Acc: 0.2800  
408 Epoch: 004, Loss: 1.4078, Train Acc: 0.4944, Val  
Acc: 0.3286, Test Acc: 0.3157
```

```
409 Epoch: 005, Loss: 1.3486, Train Acc: 0.5389, Val  
    Acc: 0.3571, Test Acc: 0.3843  
410 Epoch: 006, Loss: 1.2571, Train Acc: 0.6167, Val  
    Acc: 0.4500, Test Acc: 0.4671  
411 Epoch: 007, Loss: 1.1392, Train Acc: 0.6528, Val  
    Acc: 0.4929, Test Acc: 0.5286  
412 Epoch: 008, Loss: 1.0118, Train Acc: 0.6861, Val  
    Acc: 0.5286, Test Acc: 0.5600  
413 Epoch: 009, Loss: 0.9025, Train Acc: 0.7806, Val  
    Acc: 0.6714, Test Acc: 0.6443  
414 Epoch: 010, Loss: 0.8836, Train Acc: 0.7806, Val  
    Acc: 0.6714, Test Acc: 0.6443  
415 Epoch: 011, Loss: 0.8731, Train Acc: 0.7806, Val  
    Acc: 0.6714, Test Acc: 0.6443  
416 Epoch: 012, Loss: 0.8580, Train Acc: 0.8333, Val  
    Acc: 0.6786, Test Acc: 0.6629  
417 Epoch: 013, Loss: 0.7026, Train Acc: 0.8444, Val  
    Acc: 0.7286, Test Acc: 0.7214  
418 Epoch: 014, Loss: 0.6296, Train Acc: 0.8611, Val  
    Acc: 0.7286, Test Acc: 0.7214  
419 Epoch: 015, Loss: 0.5895, Train Acc: 0.9194, Val  
    Acc: 0.8429, Test Acc: 0.8329  
420 Epoch: 016, Loss: 0.4874, Train Acc: 0.9194, Val  
    Acc: 0.8429, Test Acc: 0.8329  
421 Epoch: 017, Loss: 0.4719, Train Acc: 0.9194, Val  
    Acc: 0.8429, Test Acc: 0.8329  
422 Epoch: 018, Loss: 0.4193, Train Acc: 0.9278, Val  
    Acc: 0.8429, Test Acc: 0.8329  
423 Epoch: 019, Loss: 0.3782, Train Acc: 0.9278, Val  
    Acc: 0.8857, Test Acc: 0.8429  
424 Epoch: 020, Loss: 0.3485, Train Acc: 0.9444, Val  
    Acc: 0.8857, Test Acc: 0.8500  
425 Epoch: 021, Loss: 0.2985, Train Acc: 0.9472, Val  
    Acc: 0.8857, Test Acc: 0.8500  
426 Epoch: 022, Loss: 0.2768, Train Acc: 0.9556, Val  
    Acc: 0.8857, Test Acc: 0.8514  
427 Epoch: 023, Loss: 0.2433, Train Acc: 0.9639, Val  
    Acc: 0.8929, Test Acc: 0.8743  
428 Epoch: 024, Loss: 0.2196, Train Acc: 0.9722, Val  
    Acc: 0.8929, Test Acc: 0.8757  
429 Epoch: 025, Loss: 0.1930, Train Acc: 0.9722, Val
```

```
429 Acc: 0.8929, Test Acc: 0.8757
430 Epoch: 026, Loss: 0.1713, Train Acc: 0.9833, Val
    Acc: 0.8929, Test Acc: 0.8757
431 Epoch: 027, Loss: 0.1491, Train Acc: 0.9833, Val
    Acc: 0.8929, Test Acc: 0.8914
432 Epoch: 028, Loss: 0.1309, Train Acc: 0.9917, Val
    Acc: 0.8929, Test Acc: 0.8943
433 Epoch: 029, Loss: 0.1119, Train Acc: 0.9917, Val
    Acc: 0.8929, Test Acc: 0.8957
434 Epoch: 030, Loss: 0.0984, Train Acc: 1.0000, Val
    Acc: 0.8929, Test Acc: 0.9014
435 Epoch: 031, Loss: 0.0844, Train Acc: 1.0000, Val
    Acc: 0.8929, Test Acc: 0.9014
436 Epoch: 032, Loss: 0.0724, Train Acc: 1.0000, Val
    Acc: 0.8929, Test Acc: 0.9157
437 Epoch: 033, Loss: 0.0646, Train Acc: 1.0000, Val
    Acc: 0.8929, Test Acc: 0.9157
438 Epoch: 034, Loss: 0.0579, Train Acc: 1.0000, Val
    Acc: 0.8929, Test Acc: 0.9157
439 Epoch: 035, Loss: 0.0547, Train Acc: 1.0000, Val
    Acc: 0.8929, Test Acc: 0.9157
440 Epoch: 036, Loss: 0.0532, Train Acc: 1.0000, Val
    Acc: 0.8929, Test Acc: 0.9157
441 Epoch: 037, Loss: 0.0437, Train Acc: 1.0000, Val
    Acc: 0.8929, Test Acc: 0.9157
442 Epoch: 038, Loss: 0.0412, Train Acc: 1.0000, Val
    Acc: 0.8929, Test Acc: 0.9157
443 Epoch: 039, Loss: 0.0371, Train Acc: 1.0000, Val
    Acc: 0.8929, Test Acc: 0.9157
444 Epoch: 040, Loss: 0.0346, Train Acc: 1.0000, Val
    Acc: 0.8929, Test Acc: 0.9157
445 Epoch: 041, Loss: 0.0308, Train Acc: 1.0000, Val
    Acc: 0.8929, Test Acc: 0.9157
446 Epoch: 042, Loss: 0.0311, Train Acc: 1.0000, Val
    Acc: 0.8929, Test Acc: 0.9157
447 Epoch: 043, Loss: 0.0269, Train Acc: 1.0000, Val
    Acc: 0.8929, Test Acc: 0.9157
448 Epoch: 044, Loss: 0.0285, Train Acc: 1.0000, Val
    Acc: 0.8929, Test Acc: 0.9157
449 Epoch: 045, Loss: 0.0235, Train Acc: 1.0000, Val
    Acc: 0.9071, Test Acc: 0.9186
```

```
450 Epoch: 046, Loss: 0.0255, Train Acc: 1.0000, Val  
    Acc: 0.9071, Test Acc: 0.9186  
451 Epoch: 047, Loss: 0.0205, Train Acc: 1.0000, Val  
    Acc: 0.9071, Test Acc: 0.9186  
452 Epoch: 048, Loss: 0.0206, Train Acc: 1.0000, Val  
    Acc: 0.9071, Test Acc: 0.9186  
453 Epoch: 049, Loss: 0.0202, Train Acc: 1.0000, Val  
    Acc: 0.9071, Test Acc: 0.9186  
454 Epoch: 050, Loss: 0.0181, Train Acc: 1.0000, Val  
    Acc: 0.9071, Test Acc: 0.9186  
455 Epoch: 051, Loss: 0.0176, Train Acc: 1.0000, Val  
    Acc: 0.9071, Test Acc: 0.9186  
456 Epoch: 052, Loss: 0.0172, Train Acc: 1.0000, Val  
    Acc: 0.9071, Test Acc: 0.9186  
457 Epoch: 053, Loss: 0.0153, Train Acc: 1.0000, Val  
    Acc: 0.9071, Test Acc: 0.9186  
458 Epoch: 054, Loss: 0.0145, Train Acc: 1.0000, Val  
    Acc: 0.9071, Test Acc: 0.9186  
459 Epoch: 055, Loss: 0.0142, Train Acc: 1.0000, Val  
    Acc: 0.9071, Test Acc: 0.9186  
460 Epoch: 056, Loss: 0.0138, Train Acc: 1.0000, Val  
    Acc: 0.9071, Test Acc: 0.9186  
461 Epoch: 057, Loss: 0.0132, Train Acc: 1.0000, Val  
    Acc: 0.9071, Test Acc: 0.9186  
462 Epoch: 058, Loss: 0.0127, Train Acc: 1.0000, Val  
    Acc: 0.9071, Test Acc: 0.9186  
463 Epoch: 059, Loss: 0.0123, Train Acc: 1.0000, Val  
    Acc: 0.9071, Test Acc: 0.9186  
464 Epoch: 060, Loss: 0.0118, Train Acc: 1.0000, Val  
    Acc: 0.9071, Test Acc: 0.9186  
465 Epoch: 061, Loss: 0.0113, Train Acc: 1.0000, Val  
    Acc: 0.9071, Test Acc: 0.9186  
466 Epoch: 062, Loss: 0.0109, Train Acc: 1.0000, Val  
    Acc: 0.9071, Test Acc: 0.9186  
467 Epoch: 063, Loss: 0.0105, Train Acc: 1.0000, Val  
    Acc: 0.9071, Test Acc: 0.9186  
468 Epoch: 064, Loss: 0.0102, Train Acc: 1.0000, Val  
    Acc: 0.9071, Test Acc: 0.9186  
469 Epoch: 065, Loss: 0.0100, Train Acc: 1.0000, Val  
    Acc: 0.9071, Test Acc: 0.9186  
470 Epoch: 066, Loss: 0.0097, Train Acc: 1.0000, Val
```

```
470 Acc: 0.9071, Test Acc: 0.9186
471 Epoch: 067, Loss: 0.0095, Train Acc: 1.0000, Val
    Acc: 0.9071, Test Acc: 0.9186
472 Epoch: 068, Loss: 0.0093, Train Acc: 1.0000, Val
    Acc: 0.9071, Test Acc: 0.9200
473 Epoch: 069, Loss: 0.0091, Train Acc: 1.0000, Val
    Acc: 0.9071, Test Acc: 0.9200
474 Epoch: 070, Loss: 0.0088, Train Acc: 1.0000, Val
    Acc: 0.9071, Test Acc: 0.9200
475 Epoch: 071, Loss: 0.0086, Train Acc: 1.0000, Val
    Acc: 0.9071, Test Acc: 0.9214
476 Epoch: 072, Loss: 0.0084, Train Acc: 1.0000, Val
    Acc: 0.9071, Test Acc: 0.9214
477 Epoch: 073, Loss: 0.0082, Train Acc: 1.0000, Val
    Acc: 0.9071, Test Acc: 0.9214
478 Epoch: 074, Loss: 0.0081, Train Acc: 1.0000, Val
    Acc: 0.9071, Test Acc: 0.9214
479 Epoch: 075, Loss: 0.0079, Train Acc: 1.0000, Val
    Acc: 0.9071, Test Acc: 0.9214
480 Epoch: 076, Loss: 0.0078, Train Acc: 1.0000, Val
    Acc: 0.9071, Test Acc: 0.9214
481 Epoch: 077, Loss: 0.0076, Train Acc: 1.0000, Val
    Acc: 0.9071, Test Acc: 0.9214
482 Epoch: 078, Loss: 0.0075, Train Acc: 1.0000, Val
    Acc: 0.9071, Test Acc: 0.9214
483 Epoch: 079, Loss: 0.0074, Train Acc: 1.0000, Val
    Acc: 0.9071, Test Acc: 0.9214
484 Epoch: 080, Loss: 0.0073, Train Acc: 1.0000, Val
    Acc: 0.9071, Test Acc: 0.9214
485 Epoch: 081, Loss: 0.0071, Train Acc: 1.0000, Val
    Acc: 0.9071, Test Acc: 0.9214
486 Epoch: 082, Loss: 0.0070, Train Acc: 1.0000, Val
    Acc: 0.9071, Test Acc: 0.9214
487 Epoch: 083, Loss: 0.0069, Train Acc: 1.0000, Val
    Acc: 0.9071, Test Acc: 0.9214
488 Epoch: 084, Loss: 0.0068, Train Acc: 1.0000, Val
    Acc: 0.9071, Test Acc: 0.9214
489 Epoch: 085, Loss: 0.0067, Train Acc: 1.0000, Val
    Acc: 0.9071, Test Acc: 0.9214
490 Epoch: 086, Loss: 0.0066, Train Acc: 1.0000, Val
    Acc: 0.9071, Test Acc: 0.9214
```

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491 Epoch: 087, Loss: 0.0065, Train Acc: 1.0000, Val  
Acc: 0.9071, Test Acc: 0.9214  
492 Epoch: 088, Loss: 0.0064, Train Acc: 1.0000, Val  
Acc: 0.9071, Test Acc: 0.9214  
493 Epoch: 089, Loss: 0.0064, Train Acc: 1.0000, Val  
Acc: 0.9071, Test Acc: 0.9214  
494 Epoch: 090, Loss: 0.0063, Train Acc: 1.0000, Val  
Acc: 0.9071, Test Acc: 0.9214  
495 Epoch: 091, Loss: 0.0062, Train Acc: 1.0000, Val  
Acc: 0.9071, Test Acc: 0.9214  
496 Epoch: 092, Loss: 0.0061, Train Acc: 1.0000, Val  
Acc: 0.9071, Test Acc: 0.9214  
497 Epoch: 093, Loss: 0.0061, Train Acc: 1.0000, Val  
Acc: 0.9071, Test Acc: 0.9214  
498 Epoch: 094, Loss: 0.0060, Train Acc: 1.0000, Val  
Acc: 0.9071, Test Acc: 0.9214  
499 Epoch: 095, Loss: 0.0059, Train Acc: 1.0000, Val  
Acc: 0.9071, Test Acc: 0.9214  
500 Epoch: 096, Loss: 0.0059, Train Acc: 1.0000, Val  
Acc: 0.9071, Test Acc: 0.9214  
501 Epoch: 097, Loss: 0.0058, Train Acc: 1.0000, Val  
Acc: 0.9071, Test Acc: 0.9214  
502 Epoch: 098, Loss: 0.0057, Train Acc: 1.0000, Val  
Acc: 0.9071, Test Acc: 0.9214  
503 Epoch: 099, Loss: 0.0057, Train Acc: 1.0000, Val  
Acc: 0.9071, Test Acc: 0.9214  
504 Epoch: 100, Loss: 0.0056, Train Acc: 1.0000, Val  
Acc: 0.9071, Test Acc: 0.9214  
505 Epoch: 101, Loss: 0.0056, Train Acc: 1.0000, Val  
Acc: 0.9071, Test Acc: 0.9214  
506 Epoch: 102, Loss: 0.0055, Train Acc: 1.0000, Val  
Acc: 0.9071, Test Acc: 0.9214  
507 Epoch: 103, Loss: 0.0055, Train Acc: 1.0000, Val  
Acc: 0.9071, Test Acc: 0.9214  
508 Epoch: 104, Loss: 0.0054, Train Acc: 1.0000, Val  
Acc: 0.9071, Test Acc: 0.9214  
509 Epoch: 105, Loss: 0.0054, Train Acc: 1.0000, Val  
Acc: 0.9071, Test Acc: 0.9214  
510 Epoch: 106, Loss: 0.0053, Train Acc: 1.0000, Val  
Acc: 0.9071, Test Acc: 0.9214  
511 Epoch: 107, Loss: 0.0053, Train Acc: 1.0000, Val
```

```
511 Acc: 0.9071, Test Acc: 0.9214
512 Epoch: 108, Loss: 0.0052, Train Acc: 1.0000, Val
    Acc: 0.9071, Test Acc: 0.9214
513 Epoch: 109, Loss: 0.0052, Train Acc: 1.0000, Val
    Acc: 0.9071, Test Acc: 0.9214
514 Epoch: 110, Loss: 0.0051, Train Acc: 1.0000, Val
    Acc: 0.9071, Test Acc: 0.9214
515 Epoch: 111, Loss: 0.0051, Train Acc: 1.0000, Val
    Acc: 0.9071, Test Acc: 0.9214
516 Epoch: 112, Loss: 0.0051, Train Acc: 1.0000, Val
    Acc: 0.9071, Test Acc: 0.9214
517 Epoch: 113, Loss: 0.0050, Train Acc: 1.0000, Val
    Acc: 0.9071, Test Acc: 0.9214
518 Epoch: 114, Loss: 0.0050, Train Acc: 1.0000, Val
    Acc: 0.9071, Test Acc: 0.9214
519 Epoch: 115, Loss: 0.0049, Train Acc: 1.0000, Val
    Acc: 0.9071, Test Acc: 0.9214
520 Epoch: 116, Loss: 0.0049, Train Acc: 1.0000, Val
    Acc: 0.9071, Test Acc: 0.9214
521 Epoch: 117, Loss: 0.0049, Train Acc: 1.0000, Val
    Acc: 0.9071, Test Acc: 0.9214
522 Epoch: 118, Loss: 0.0048, Train Acc: 1.0000, Val
    Acc: 0.9071, Test Acc: 0.9214
523 Epoch: 119, Loss: 0.0048, Train Acc: 1.0000, Val
    Acc: 0.9071, Test Acc: 0.9214
524 Epoch: 120, Loss: 0.0048, Train Acc: 1.0000, Val
    Acc: 0.9071, Test Acc: 0.9214
525 Epoch: 121, Loss: 0.0047, Train Acc: 1.0000, Val
    Acc: 0.9071, Test Acc: 0.9214
526 Epoch: 122, Loss: 0.0047, Train Acc: 1.0000, Val
    Acc: 0.9071, Test Acc: 0.9214
527 Epoch: 123, Loss: 0.0047, Train Acc: 1.0000, Val
    Acc: 0.9071, Test Acc: 0.9214
528 Epoch: 124, Loss: 0.0046, Train Acc: 1.0000, Val
    Acc: 0.9071, Test Acc: 0.9214
529 Epoch: 125, Loss: 0.0046, Train Acc: 1.0000, Val
    Acc: 0.9071, Test Acc: 0.9214
530 Epoch: 126, Loss: 0.0046, Train Acc: 1.0000, Val
    Acc: 0.9071, Test Acc: 0.9214
531 Epoch: 127, Loss: 0.0046, Train Acc: 1.0000, Val
    Acc: 0.9071, Test Acc: 0.9214
```

```
532 Epoch: 128, Loss: 0.0045, Train Acc: 1.0000, Val  
Acc: 0.9071, Test Acc: 0.9214  
533 Epoch: 129, Loss: 0.0045, Train Acc: 1.0000, Val  
Acc: 0.9071, Test Acc: 0.9214  
534 Epoch: 130, Loss: 0.0045, Train Acc: 1.0000, Val  
Acc: 0.9071, Test Acc: 0.9214  
535 Epoch: 131, Loss: 0.0045, Train Acc: 1.0000, Val  
Acc: 0.9071, Test Acc: 0.9214  
536 Epoch: 132, Loss: 0.0044, Train Acc: 1.0000, Val  
Acc: 0.9071, Test Acc: 0.9214  
537 Epoch: 133, Loss: 0.0044, Train Acc: 1.0000, Val  
Acc: 0.9071, Test Acc: 0.9214  
538 Epoch: 134, Loss: 0.0044, Train Acc: 1.0000, Val  
Acc: 0.9071, Test Acc: 0.9214  
539 Epoch: 135, Loss: 0.0044, Train Acc: 1.0000, Val  
Acc: 0.9071, Test Acc: 0.9214  
540 Epoch: 136, Loss: 0.0044, Train Acc: 1.0000, Val  
Acc: 0.9071, Test Acc: 0.9214  
541 Epoch: 137, Loss: 0.0043, Train Acc: 1.0000, Val  
Acc: 0.9071, Test Acc: 0.9214  
542 Epoch: 138, Loss: 0.0043, Train Acc: 1.0000, Val  
Acc: 0.9071, Test Acc: 0.9214  
543 Epoch: 139, Loss: 0.0043, Train Acc: 1.0000, Val  
Acc: 0.9071, Test Acc: 0.9214  
544 Epoch: 140, Loss: 0.0043, Train Acc: 1.0000, Val  
Acc: 0.9071, Test Acc: 0.9214  
545 Epoch: 141, Loss: 0.0043, Train Acc: 1.0000, Val  
Acc: 0.9071, Test Acc: 0.9214  
546 Epoch: 142, Loss: 0.0042, Train Acc: 1.0000, Val  
Acc: 0.9071, Test Acc: 0.9214  
547 Epoch: 143, Loss: 0.0042, Train Acc: 1.0000, Val  
Acc: 0.9071, Test Acc: 0.9214  
548 Epoch: 144, Loss: 0.0042, Train Acc: 1.0000, Val  
Acc: 0.9071, Test Acc: 0.9214  
549 Epoch: 145, Loss: 0.0042, Train Acc: 1.0000, Val  
Acc: 0.9071, Test Acc: 0.9214  
550 Epoch: 146, Loss: 0.0042, Train Acc: 1.0000, Val  
Acc: 0.9071, Test Acc: 0.9214  
551 Epoch: 147, Loss: 0.0041, Train Acc: 1.0000, Val  
Acc: 0.9071, Test Acc: 0.9214  
552 Epoch: 148, Loss: 0.0041, Train Acc: 1.0000, Val
```

```
552 Acc: 0.9071, Test Acc: 0.9214
553 Epoch: 149, Loss: 0.0041, Train Acc: 1.0000, Val
    Acc: 0.9071, Test Acc: 0.9214
554 Epoch: 150, Loss: 0.0041, Train Acc: 1.0000, Val
    Acc: 0.9071, Test Acc: 0.9214
555 Epoch: 151, Loss: 0.0041, Train Acc: 1.0000, Val
    Acc: 0.9071, Test Acc: 0.9214
556 Epoch: 152, Loss: 0.0041, Train Acc: 1.0000, Val
    Acc: 0.9071, Test Acc: 0.9214
557 Epoch: 153, Loss: 0.0041, Train Acc: 1.0000, Val
    Acc: 0.9071, Test Acc: 0.9214
558 Epoch: 154, Loss: 0.0040, Train Acc: 1.0000, Val
    Acc: 0.9071, Test Acc: 0.9214
559 Epoch: 155, Loss: 0.0040, Train Acc: 1.0000, Val
    Acc: 0.9071, Test Acc: 0.9214
560 Epoch: 156, Loss: 0.0040, Train Acc: 1.0000, Val
    Acc: 0.9071, Test Acc: 0.9214
561 Epoch: 157, Loss: 0.0040, Train Acc: 1.0000, Val
    Acc: 0.9071, Test Acc: 0.9214
562 Epoch: 158, Loss: 0.0040, Train Acc: 1.0000, Val
    Acc: 0.9071, Test Acc: 0.9214
563 Epoch: 159, Loss: 0.0040, Train Acc: 1.0000, Val
    Acc: 0.9071, Test Acc: 0.9214
564 Epoch: 160, Loss: 0.0040, Train Acc: 1.0000, Val
    Acc: 0.9071, Test Acc: 0.9214
565 Epoch: 161, Loss: 0.0040, Train Acc: 1.0000, Val
    Acc: 0.9071, Test Acc: 0.9214
566 Epoch: 162, Loss: 0.0039, Train Acc: 1.0000, Val
    Acc: 0.9071, Test Acc: 0.9214
567 Epoch: 163, Loss: 0.0039, Train Acc: 1.0000, Val
    Acc: 0.9071, Test Acc: 0.9214
568 Epoch: 164, Loss: 0.0039, Train Acc: 1.0000, Val
    Acc: 0.9071, Test Acc: 0.9214
569 Epoch: 165, Loss: 0.0039, Train Acc: 1.0000, Val
    Acc: 0.9071, Test Acc: 0.9214
570 Epoch: 166, Loss: 0.0039, Train Acc: 1.0000, Val
    Acc: 0.9071, Test Acc: 0.9214
571 Epoch: 167, Loss: 0.0039, Train Acc: 1.0000, Val
    Acc: 0.9071, Test Acc: 0.9214
572 Epoch: 168, Loss: 0.0039, Train Acc: 1.0000, Val
    Acc: 0.9071, Test Acc: 0.9214
```

```
573 Epoch: 169, Loss: 0.0039, Train Acc: 1.0000, Val  
Acc: 0.9071, Test Acc: 0.9214  
574 Epoch: 170, Loss: 0.0039, Train Acc: 1.0000, Val  
Acc: 0.9071, Test Acc: 0.9214  
575 Epoch: 171, Loss: 0.0039, Train Acc: 1.0000, Val  
Acc: 0.9071, Test Acc: 0.9214  
576 Epoch: 172, Loss: 0.0039, Train Acc: 1.0000, Val  
Acc: 0.9071, Test Acc: 0.9214  
577 Epoch: 173, Loss: 0.0038, Train Acc: 1.0000, Val  
Acc: 0.9071, Test Acc: 0.9214  
578 Epoch: 174, Loss: 0.0038, Train Acc: 1.0000, Val  
Acc: 0.9071, Test Acc: 0.9214  
579 Epoch: 175, Loss: 0.0038, Train Acc: 1.0000, Val  
Acc: 0.9071, Test Acc: 0.9214  
580 Epoch: 176, Loss: 0.0038, Train Acc: 1.0000, Val  
Acc: 0.9071, Test Acc: 0.9214  
581 Epoch: 177, Loss: 0.0038, Train Acc: 1.0000, Val  
Acc: 0.9071, Test Acc: 0.9214  
582 Epoch: 178, Loss: 0.0038, Train Acc: 1.0000, Val  
Acc: 0.9071, Test Acc: 0.9214  
583 Epoch: 179, Loss: 0.0038, Train Acc: 1.0000, Val  
Acc: 0.9071, Test Acc: 0.9214  
584 Epoch: 180, Loss: 0.0038, Train Acc: 1.0000, Val  
Acc: 0.9071, Test Acc: 0.9214  
585 Epoch: 181, Loss: 0.0038, Train Acc: 1.0000, Val  
Acc: 0.9071, Test Acc: 0.9214  
586 Epoch: 182, Loss: 0.0038, Train Acc: 1.0000, Val  
Acc: 0.9071, Test Acc: 0.9214  
587 Epoch: 183, Loss: 0.0038, Train Acc: 1.0000, Val  
Acc: 0.9071, Test Acc: 0.9214  
588 Epoch: 184, Loss: 0.0038, Train Acc: 1.0000, Val  
Acc: 0.9071, Test Acc: 0.9214  
589 Epoch: 185, Loss: 0.0038, Train Acc: 1.0000, Val  
Acc: 0.9071, Test Acc: 0.9214  
590 Epoch: 186, Loss: 0.0037, Train Acc: 1.0000, Val  
Acc: 0.9071, Test Acc: 0.9214  
591 Epoch: 187, Loss: 0.0037, Train Acc: 1.0000, Val  
Acc: 0.9071, Test Acc: 0.9214  
592 Epoch: 188, Loss: 0.0037, Train Acc: 1.0000, Val  
Acc: 0.9071, Test Acc: 0.9214  
593 Epoch: 189, Loss: 0.0037, Train Acc: 1.0000, Val
```

```
593 Acc: 0.9071, Test Acc: 0.9214
594 Epoch: 190, Loss: 0.0037, Train Acc: 1.0000, Val
    Acc: 0.9071, Test Acc: 0.9214
595 Epoch: 191, Loss: 0.0037, Train Acc: 1.0000, Val
    Acc: 0.9071, Test Acc: 0.9214
596 Epoch: 192, Loss: 0.0037, Train Acc: 1.0000, Val
    Acc: 0.9071, Test Acc: 0.9214
597 Epoch: 193, Loss: 0.0037, Train Acc: 1.0000, Val
    Acc: 0.9071, Test Acc: 0.9214
598 Epoch: 194, Loss: 0.0037, Train Acc: 1.0000, Val
    Acc: 0.9071, Test Acc: 0.9214
599 Epoch: 195, Loss: 0.0037, Train Acc: 1.0000, Val
    Acc: 0.9071, Test Acc: 0.9214
600 Epoch: 196, Loss: 0.0037, Train Acc: 1.0000, Val
    Acc: 0.9071, Test Acc: 0.9214
601 Epoch: 197, Loss: 0.0037, Train Acc: 1.0000, Val
    Acc: 0.9071, Test Acc: 0.9214
602 Epoch: 198, Loss: 0.0037, Train Acc: 1.0000, Val
    Acc: 0.9071, Test Acc: 0.9214
603 Epoch: 199, Loss: 0.0037, Train Acc: 1.0000, Val
    Acc: 0.9071, Test Acc: 0.9214
604 Epoch: 200, Loss: 0.0037, Train Acc: 1.0000, Val
    Acc: 0.9071, Test Acc: 0.9214
605 Data(x=[1100, 512],
        edge_index=[2, 7700],
        edge_attr=[7700], y=[1100], test_mask=[1100],
        train_mask=[1100], val_mask=[1100])
606 Epoch: 001, Loss: 1.8622, Train Acc: 0.6269, Val
    Acc: 0.2929, Test Acc: 0.2800
607 Epoch: 002, Loss: 1.2333, Train Acc: 0.6269, Val
    Acc: 0.2929, Test Acc: 0.2800
608 Epoch: 003, Loss: 1.1818, Train Acc: 0.6269, Val
    Acc: 0.2929, Test Acc: 0.2800
609 Epoch: 004, Loss: 1.1500, Train Acc: 0.6269, Val
    Acc: 0.2929, Test Acc: 0.2800
610 Epoch: 005, Loss: 1.1222, Train Acc: 0.6269, Val
    Acc: 0.2929, Test Acc: 0.2800
611 Epoch: 006, Loss: 1.0899, Train Acc: 0.6269, Val
    Acc: 0.2929, Test Acc: 0.2800
612 Epoch: 007, Loss: 1.0478, Train Acc: 0.6538, Val
    Acc: 0.3286, Test Acc: 0.3186
613 Epoch: 008, Loss: 0.9911, Train Acc: 0.7038, Val
```

```
613 Acc: 0.4286, Test Acc: 0.4171
614 Epoch: 009, Loss: 0.9177, Train Acc: 0.7308, Val
    Acc: 0.4286, Test Acc: 0.4414
615 Epoch: 010, Loss: 0.8323, Train Acc: 0.7538, Val
    Acc: 0.4643, Test Acc: 0.4714
616 Epoch: 011, Loss: 0.7409, Train Acc: 0.7962, Val
    Acc: 0.5143, Test Acc: 0.5357
617 Epoch: 012, Loss: 0.6457, Train Acc: 0.7962, Val
    Acc: 0.5143, Test Acc: 0.5357
618 Epoch: 013, Loss: 0.6348, Train Acc: 0.8615, Val
    Acc: 0.6071, Test Acc: 0.6500
619 Epoch: 014, Loss: 0.6375, Train Acc: 0.8615, Val
    Acc: 0.6071, Test Acc: 0.6500
620 Epoch: 015, Loss: 0.5739, Train Acc: 0.8615, Val
    Acc: 0.6071, Test Acc: 0.6500
621 Epoch: 016, Loss: 0.5940, Train Acc: 0.8615, Val
    Acc: 0.6071, Test Acc: 0.6500
622 Epoch: 017, Loss: 0.4710, Train Acc: 0.9038, Val
    Acc: 0.7071, Test Acc: 0.7057
623 Epoch: 018, Loss: 0.4509, Train Acc: 0.9308, Val
    Acc: 0.7071, Test Acc: 0.7057
624 Epoch: 019, Loss: 0.4005, Train Acc: 0.9308, Val
    Acc: 0.7071, Test Acc: 0.7057
625 Epoch: 020, Loss: 0.3454, Train Acc: 0.9308, Val
    Acc: 0.7214, Test Acc: 0.7057
626 Epoch: 021, Loss: 0.3236, Train Acc: 0.9538, Val
    Acc: 0.7643, Test Acc: 0.7486
627 Epoch: 022, Loss: 0.2904, Train Acc: 0.9692, Val
    Acc: 0.7714, Test Acc: 0.7814
628 Epoch: 023, Loss: 0.2478, Train Acc: 0.9692, Val
    Acc: 0.7714, Test Acc: 0.7814
629 Epoch: 024, Loss: 0.2299, Train Acc: 0.9692, Val
    Acc: 0.7714, Test Acc: 0.7814
630 Epoch: 025, Loss: 0.1984, Train Acc: 0.9692, Val
    Acc: 0.7714, Test Acc: 0.7814
631 Epoch: 026, Loss: 0.1748, Train Acc: 0.9731, Val
    Acc: 0.7714, Test Acc: 0.7814
632 Epoch: 027, Loss: 0.1643, Train Acc: 0.9808, Val
    Acc: 0.7929, Test Acc: 0.7857
633 Epoch: 028, Loss: 0.1339, Train Acc: 0.9846, Val
    Acc: 0.8000, Test Acc: 0.7857
```

```
634 Epoch: 029, Loss: 0.1231, Train Acc: 0.9923, Val  
Acc: 0.8000, Test Acc: 0.7857  
635 Epoch: 030, Loss: 0.1122, Train Acc: 0.9923, Val  
Acc: 0.8000, Test Acc: 0.7857  
636 Epoch: 031, Loss: 0.0940, Train Acc: 0.9923, Val  
Acc: 0.8000, Test Acc: 0.8043  
637 Epoch: 032, Loss: 0.0849, Train Acc: 0.9962, Val  
Acc: 0.8071, Test Acc: 0.8071  
638 Epoch: 033, Loss: 0.0770, Train Acc: 1.0000, Val  
Acc: 0.8071, Test Acc: 0.8086  
639 Epoch: 034, Loss: 0.0674, Train Acc: 1.0000, Val  
Acc: 0.8071, Test Acc: 0.8086  
640 Epoch: 035, Loss: 0.0609, Train Acc: 1.0000, Val  
Acc: 0.8071, Test Acc: 0.8086  
641 Epoch: 036, Loss: 0.0557, Train Acc: 1.0000, Val  
Acc: 0.8071, Test Acc: 0.8086  
642 Epoch: 037, Loss: 0.0498, Train Acc: 1.0000, Val  
Acc: 0.8071, Test Acc: 0.8129  
643 Epoch: 038, Loss: 0.0447, Train Acc: 1.0000, Val  
Acc: 0.8071, Test Acc: 0.8257  
644 Epoch: 039, Loss: 0.0412, Train Acc: 1.0000, Val  
Acc: 0.8071, Test Acc: 0.8286  
645 Epoch: 040, Loss: 0.0377, Train Acc: 1.0000, Val  
Acc: 0.8071, Test Acc: 0.8314  
646 Epoch: 041, Loss: 0.0343, Train Acc: 1.0000, Val  
Acc: 0.8071, Test Acc: 0.8314  
647 Epoch: 042, Loss: 0.0315, Train Acc: 1.0000, Val  
Acc: 0.8071, Test Acc: 0.8314  
648 Epoch: 043, Loss: 0.0291, Train Acc: 1.0000, Val  
Acc: 0.8071, Test Acc: 0.8314  
649 Epoch: 044, Loss: 0.0272, Train Acc: 1.0000, Val  
Acc: 0.8071, Test Acc: 0.8314  
650 Epoch: 045, Loss: 0.0255, Train Acc: 1.0000, Val  
Acc: 0.8071, Test Acc: 0.8314  
651 Epoch: 046, Loss: 0.0237, Train Acc: 1.0000, Val  
Acc: 0.8071, Test Acc: 0.8314  
652 Epoch: 047, Loss: 0.0221, Train Acc: 1.0000, Val  
Acc: 0.8071, Test Acc: 0.8329  
653 Epoch: 048, Loss: 0.0210, Train Acc: 1.0000, Val  
Acc: 0.8071, Test Acc: 0.8357  
654 Epoch: 049, Loss: 0.0199, Train Acc: 1.0000, Val
```

```
654 Acc: 0.8071, Test Acc: 0.8400
655 Epoch: 050, Loss: 0.0189, Train Acc: 1.0000, Val
    Acc: 0.8071, Test Acc: 0.8400
656 Epoch: 051, Loss: 0.0179, Train Acc: 1.0000, Val
    Acc: 0.8071, Test Acc: 0.8400
657 Epoch: 052, Loss: 0.0170, Train Acc: 1.0000, Val
    Acc: 0.8071, Test Acc: 0.8400
658 Epoch: 053, Loss: 0.0162, Train Acc: 1.0000, Val
    Acc: 0.8071, Test Acc: 0.8400
659 Epoch: 054, Loss: 0.0155, Train Acc: 1.0000, Val
    Acc: 0.8071, Test Acc: 0.8400
660 Epoch: 055, Loss: 0.0148, Train Acc: 1.0000, Val
    Acc: 0.8071, Test Acc: 0.8400
661 Epoch: 056, Loss: 0.0142, Train Acc: 1.0000, Val
    Acc: 0.8071, Test Acc: 0.8400
662 Epoch: 057, Loss: 0.0136, Train Acc: 1.0000, Val
    Acc: 0.8071, Test Acc: 0.8400
663 Epoch: 058, Loss: 0.0131, Train Acc: 1.0000, Val
    Acc: 0.8071, Test Acc: 0.8400
664 Epoch: 059, Loss: 0.0126, Train Acc: 1.0000, Val
    Acc: 0.8071, Test Acc: 0.8400
665 Epoch: 060, Loss: 0.0122, Train Acc: 1.0000, Val
    Acc: 0.8071, Test Acc: 0.8400
666 Epoch: 061, Loss: 0.0118, Train Acc: 1.0000, Val
    Acc: 0.8071, Test Acc: 0.8400
667 Epoch: 062, Loss: 0.0115, Train Acc: 1.0000, Val
    Acc: 0.8071, Test Acc: 0.8400
668 Epoch: 063, Loss: 0.0111, Train Acc: 1.0000, Val
    Acc: 0.8071, Test Acc: 0.8400
669 Epoch: 064, Loss: 0.0108, Train Acc: 1.0000, Val
    Acc: 0.8071, Test Acc: 0.8400
670 Epoch: 065, Loss: 0.0105, Train Acc: 1.0000, Val
    Acc: 0.8071, Test Acc: 0.8400
671 Epoch: 066, Loss: 0.0102, Train Acc: 1.0000, Val
    Acc: 0.8071, Test Acc: 0.8400
672 Epoch: 067, Loss: 0.0099, Train Acc: 1.0000, Val
    Acc: 0.8071, Test Acc: 0.8400
673 Epoch: 068, Loss: 0.0097, Train Acc: 1.0000, Val
    Acc: 0.8071, Test Acc: 0.8400
674 Epoch: 069, Loss: 0.0094, Train Acc: 1.0000, Val
    Acc: 0.8071, Test Acc: 0.8400
```

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675 Epoch: 070, Loss: 0.0092, Train Acc: 1.0000, Val  
Acc: 0.8071, Test Acc: 0.8400  
676 Epoch: 071, Loss: 0.0090, Train Acc: 1.0000, Val  
Acc: 0.8071, Test Acc: 0.8400  
677 Epoch: 072, Loss: 0.0088, Train Acc: 1.0000, Val  
Acc: 0.8071, Test Acc: 0.8400  
678 Epoch: 073, Loss: 0.0086, Train Acc: 1.0000, Val  
Acc: 0.8071, Test Acc: 0.8400  
679 Epoch: 074, Loss: 0.0084, Train Acc: 1.0000, Val  
Acc: 0.8071, Test Acc: 0.8400  
680 Epoch: 075, Loss: 0.0083, Train Acc: 1.0000, Val  
Acc: 0.8071, Test Acc: 0.8400  
681 Epoch: 076, Loss: 0.0081, Train Acc: 1.0000, Val  
Acc: 0.8071, Test Acc: 0.8400  
682 Epoch: 077, Loss: 0.0080, Train Acc: 1.0000, Val  
Acc: 0.8071, Test Acc: 0.8400  
683 Epoch: 078, Loss: 0.0078, Train Acc: 1.0000, Val  
Acc: 0.8071, Test Acc: 0.8400  
684 Epoch: 079, Loss: 0.0077, Train Acc: 1.0000, Val  
Acc: 0.8071, Test Acc: 0.8400  
685 Epoch: 080, Loss: 0.0076, Train Acc: 1.0000, Val  
Acc: 0.8071, Test Acc: 0.8400  
686 Epoch: 081, Loss: 0.0074, Train Acc: 1.0000, Val  
Acc: 0.8071, Test Acc: 0.8400  
687 Epoch: 082, Loss: 0.0073, Train Acc: 1.0000, Val  
Acc: 0.8071, Test Acc: 0.8400  
688 Epoch: 083, Loss: 0.0072, Train Acc: 1.0000, Val  
Acc: 0.8071, Test Acc: 0.8400  
689 Epoch: 084, Loss: 0.0071, Train Acc: 1.0000, Val  
Acc: 0.8071, Test Acc: 0.8400  
690 Epoch: 085, Loss: 0.0070, Train Acc: 1.0000, Val  
Acc: 0.8071, Test Acc: 0.8400  
691 Epoch: 086, Loss: 0.0069, Train Acc: 1.0000, Val  
Acc: 0.8071, Test Acc: 0.8400  
692 Epoch: 087, Loss: 0.0068, Train Acc: 1.0000, Val  
Acc: 0.8071, Test Acc: 0.8400  
693 Epoch: 088, Loss: 0.0067, Train Acc: 1.0000, Val  
Acc: 0.8071, Test Acc: 0.8400  
694 Epoch: 089, Loss: 0.0066, Train Acc: 1.0000, Val  
Acc: 0.8071, Test Acc: 0.8400  
695 Epoch: 090, Loss: 0.0065, Train Acc: 1.0000, Val
```

```
695 Acc: 0.8071, Test Acc: 0.8400
696 Epoch: 091, Loss: 0.0064, Train Acc: 1.0000, Val
    Acc: 0.8071, Test Acc: 0.8400
697 Epoch: 092, Loss: 0.0064, Train Acc: 1.0000, Val
    Acc: 0.8071, Test Acc: 0.8400
698 Epoch: 093, Loss: 0.0063, Train Acc: 1.0000, Val
    Acc: 0.8071, Test Acc: 0.8400
699 Epoch: 094, Loss: 0.0062, Train Acc: 1.0000, Val
    Acc: 0.8071, Test Acc: 0.8400
700 Epoch: 095, Loss: 0.0061, Train Acc: 1.0000, Val
    Acc: 0.8071, Test Acc: 0.8400
701 Epoch: 096, Loss: 0.0061, Train Acc: 1.0000, Val
    Acc: 0.8071, Test Acc: 0.8400
702 Epoch: 097, Loss: 0.0060, Train Acc: 1.0000, Val
    Acc: 0.8071, Test Acc: 0.8400
703 Epoch: 098, Loss: 0.0059, Train Acc: 1.0000, Val
    Acc: 0.8071, Test Acc: 0.8400
704 Epoch: 099, Loss: 0.0059, Train Acc: 1.0000, Val
    Acc: 0.8071, Test Acc: 0.8400
705 Epoch: 100, Loss: 0.0058, Train Acc: 1.0000, Val
    Acc: 0.8071, Test Acc: 0.8400
706 Epoch: 101, Loss: 0.0057, Train Acc: 1.0000, Val
    Acc: 0.8071, Test Acc: 0.8400
707 Epoch: 102, Loss: 0.0057, Train Acc: 1.0000, Val
    Acc: 0.8071, Test Acc: 0.8400
708 Epoch: 103, Loss: 0.0056, Train Acc: 1.0000, Val
    Acc: 0.8071, Test Acc: 0.8400
709 Epoch: 104, Loss: 0.0056, Train Acc: 1.0000, Val
    Acc: 0.8071, Test Acc: 0.8400
710 Epoch: 105, Loss: 0.0055, Train Acc: 1.0000, Val
    Acc: 0.8071, Test Acc: 0.8400
711 Epoch: 106, Loss: 0.0055, Train Acc: 1.0000, Val
    Acc: 0.8071, Test Acc: 0.8400
712 Epoch: 107, Loss: 0.0054, Train Acc: 1.0000, Val
    Acc: 0.8071, Test Acc: 0.8400
713 Epoch: 108, Loss: 0.0054, Train Acc: 1.0000, Val
    Acc: 0.8071, Test Acc: 0.8400
714 Epoch: 109, Loss: 0.0053, Train Acc: 1.0000, Val
    Acc: 0.8071, Test Acc: 0.8400
715 Epoch: 110, Loss: 0.0053, Train Acc: 1.0000, Val
    Acc: 0.8071, Test Acc: 0.8400
```

```
716 Epoch: 111, Loss: 0.0052, Train Acc: 1.0000, Val  
    Acc: 0.8071, Test Acc: 0.8400  
717 Epoch: 112, Loss: 0.0052, Train Acc: 1.0000, Val  
    Acc: 0.8071, Test Acc: 0.8400  
718 Epoch: 113, Loss: 0.0051, Train Acc: 1.0000, Val  
    Acc: 0.8071, Test Acc: 0.8400  
719 Epoch: 114, Loss: 0.0051, Train Acc: 1.0000, Val  
    Acc: 0.8071, Test Acc: 0.8400  
720 Epoch: 115, Loss: 0.0051, Train Acc: 1.0000, Val  
    Acc: 0.8071, Test Acc: 0.8400  
721 Epoch: 116, Loss: 0.0050, Train Acc: 1.0000, Val  
    Acc: 0.8071, Test Acc: 0.8400  
722 Epoch: 117, Loss: 0.0050, Train Acc: 1.0000, Val  
    Acc: 0.8071, Test Acc: 0.8400  
723 Epoch: 118, Loss: 0.0050, Train Acc: 1.0000, Val  
    Acc: 0.8071, Test Acc: 0.8400  
724 Epoch: 119, Loss: 0.0049, Train Acc: 1.0000, Val  
    Acc: 0.8071, Test Acc: 0.8400  
725 Epoch: 120, Loss: 0.0049, Train Acc: 1.0000, Val  
    Acc: 0.8071, Test Acc: 0.8400  
726 Epoch: 121, Loss: 0.0049, Train Acc: 1.0000, Val  
    Acc: 0.8071, Test Acc: 0.8400  
727 Epoch: 122, Loss: 0.0048, Train Acc: 1.0000, Val  
    Acc: 0.8071, Test Acc: 0.8400  
728 Epoch: 123, Loss: 0.0048, Train Acc: 1.0000, Val  
    Acc: 0.8071, Test Acc: 0.8400  
729 Epoch: 124, Loss: 0.0048, Train Acc: 1.0000, Val  
    Acc: 0.8071, Test Acc: 0.8400  
730 Epoch: 125, Loss: 0.0047, Train Acc: 1.0000, Val  
    Acc: 0.8071, Test Acc: 0.8400  
731 Epoch: 126, Loss: 0.0047, Train Acc: 1.0000, Val  
    Acc: 0.8071, Test Acc: 0.8400  
732 Epoch: 127, Loss: 0.0047, Train Acc: 1.0000, Val  
    Acc: 0.8071, Test Acc: 0.8400  
733 Epoch: 128, Loss: 0.0046, Train Acc: 1.0000, Val  
    Acc: 0.8071, Test Acc: 0.8400  
734 Epoch: 129, Loss: 0.0046, Train Acc: 1.0000, Val  
    Acc: 0.8071, Test Acc: 0.8400  
735 Epoch: 130, Loss: 0.0046, Train Acc: 1.0000, Val  
    Acc: 0.8071, Test Acc: 0.8400  
736 Epoch: 131, Loss: 0.0046, Train Acc: 1.0000, Val
```

```
736 Acc: 0.8071, Test Acc: 0.8400
737 Epoch: 132, Loss: 0.0045, Train Acc: 1.0000, Val
    Acc: 0.8071, Test Acc: 0.8400
738 Epoch: 133, Loss: 0.0045, Train Acc: 1.0000, Val
    Acc: 0.8071, Test Acc: 0.8400
739 Epoch: 134, Loss: 0.0045, Train Acc: 1.0000, Val
    Acc: 0.8071, Test Acc: 0.8400
740 Epoch: 135, Loss: 0.0045, Train Acc: 1.0000, Val
    Acc: 0.8071, Test Acc: 0.8400
741 Epoch: 136, Loss: 0.0044, Train Acc: 1.0000, Val
    Acc: 0.8071, Test Acc: 0.8400
742 Epoch: 137, Loss: 0.0044, Train Acc: 1.0000, Val
    Acc: 0.8071, Test Acc: 0.8400
743 Epoch: 138, Loss: 0.0044, Train Acc: 1.0000, Val
    Acc: 0.8071, Test Acc: 0.8400
744 Epoch: 139, Loss: 0.0044, Train Acc: 1.0000, Val
    Acc: 0.8071, Test Acc: 0.8400
745 Epoch: 140, Loss: 0.0044, Train Acc: 1.0000, Val
    Acc: 0.8071, Test Acc: 0.8400
746 Epoch: 141, Loss: 0.0043, Train Acc: 1.0000, Val
    Acc: 0.8071, Test Acc: 0.8400
747 Epoch: 142, Loss: 0.0043, Train Acc: 1.0000, Val
    Acc: 0.8071, Test Acc: 0.8400
748 Epoch: 143, Loss: 0.0043, Train Acc: 1.0000, Val
    Acc: 0.8071, Test Acc: 0.8400
749 Epoch: 144, Loss: 0.0043, Train Acc: 1.0000, Val
    Acc: 0.8071, Test Acc: 0.8400
750 Epoch: 145, Loss: 0.0043, Train Acc: 1.0000, Val
    Acc: 0.8071, Test Acc: 0.8400
751 Epoch: 146, Loss: 0.0042, Train Acc: 1.0000, Val
    Acc: 0.8071, Test Acc: 0.8400
752 Epoch: 147, Loss: 0.0042, Train Acc: 1.0000, Val
    Acc: 0.8071, Test Acc: 0.8400
753 Epoch: 148, Loss: 0.0042, Train Acc: 1.0000, Val
    Acc: 0.8071, Test Acc: 0.8400
754 Epoch: 149, Loss: 0.0042, Train Acc: 1.0000, Val
    Acc: 0.8071, Test Acc: 0.8400
755 Epoch: 150, Loss: 0.0042, Train Acc: 1.0000, Val
    Acc: 0.8071, Test Acc: 0.8400
756 Epoch: 151, Loss: 0.0042, Train Acc: 1.0000, Val
    Acc: 0.8071, Test Acc: 0.8400
```

```
757 Epoch: 152, Loss: 0.0041, Train Acc: 1.0000, Val  
    Acc: 0.8071, Test Acc: 0.8400  
758 Epoch: 153, Loss: 0.0041, Train Acc: 1.0000, Val  
    Acc: 0.8071, Test Acc: 0.8400  
759 Epoch: 154, Loss: 0.0041, Train Acc: 1.0000, Val  
    Acc: 0.8071, Test Acc: 0.8400  
760 Epoch: 155, Loss: 0.0041, Train Acc: 1.0000, Val  
    Acc: 0.8071, Test Acc: 0.8400  
761 Epoch: 156, Loss: 0.0041, Train Acc: 1.0000, Val  
    Acc: 0.8071, Test Acc: 0.8400  
762 Epoch: 157, Loss: 0.0041, Train Acc: 1.0000, Val  
    Acc: 0.8071, Test Acc: 0.8400  
763 Epoch: 158, Loss: 0.0041, Train Acc: 1.0000, Val  
    Acc: 0.8071, Test Acc: 0.8400  
764 Epoch: 159, Loss: 0.0040, Train Acc: 1.0000, Val  
    Acc: 0.8071, Test Acc: 0.8400  
765 Epoch: 160, Loss: 0.0040, Train Acc: 1.0000, Val  
    Acc: 0.8071, Test Acc: 0.8400  
766 Epoch: 161, Loss: 0.0040, Train Acc: 1.0000, Val  
    Acc: 0.8071, Test Acc: 0.8400  
767 Epoch: 162, Loss: 0.0040, Train Acc: 1.0000, Val  
    Acc: 0.8071, Test Acc: 0.8400  
768 Epoch: 163, Loss: 0.0040, Train Acc: 1.0000, Val  
    Acc: 0.8071, Test Acc: 0.8400  
769 Epoch: 164, Loss: 0.0040, Train Acc: 1.0000, Val  
    Acc: 0.8071, Test Acc: 0.8400  
770 Epoch: 165, Loss: 0.0040, Train Acc: 1.0000, Val  
    Acc: 0.8071, Test Acc: 0.8400  
771 Epoch: 166, Loss: 0.0040, Train Acc: 1.0000, Val  
    Acc: 0.8071, Test Acc: 0.8400  
772 Epoch: 167, Loss: 0.0040, Train Acc: 1.0000, Val  
    Acc: 0.8071, Test Acc: 0.8400  
773 Epoch: 168, Loss: 0.0039, Train Acc: 1.0000, Val  
    Acc: 0.8071, Test Acc: 0.8400  
774 Epoch: 169, Loss: 0.0039, Train Acc: 1.0000, Val  
    Acc: 0.8071, Test Acc: 0.8400  
775 Epoch: 170, Loss: 0.0039, Train Acc: 1.0000, Val  
    Acc: 0.8071, Test Acc: 0.8400  
776 Epoch: 171, Loss: 0.0039, Train Acc: 1.0000, Val  
    Acc: 0.8071, Test Acc: 0.8400  
777 Epoch: 172, Loss: 0.0039, Train Acc: 1.0000, Val
```

```
777 Epoch: 173, Loss: 0.0039, Train Acc: 1.0000, Val  
    Acc: 0.8071, Test Acc: 0.8400  
778 Epoch: 174, Loss: 0.0039, Train Acc: 1.0000, Val  
    Acc: 0.8071, Test Acc: 0.8400  
779 Epoch: 175, Loss: 0.0039, Train Acc: 1.0000, Val  
    Acc: 0.8071, Test Acc: 0.8400  
780 Epoch: 176, Loss: 0.0039, Train Acc: 1.0000, Val  
    Acc: 0.8071, Test Acc: 0.8400  
781 Epoch: 177, Loss: 0.0039, Train Acc: 1.0000, Val  
    Acc: 0.8071, Test Acc: 0.8400  
782 Epoch: 178, Loss: 0.0039, Train Acc: 1.0000, Val  
    Acc: 0.8071, Test Acc: 0.8400  
783 Epoch: 179, Loss: 0.0038, Train Acc: 1.0000, Val  
    Acc: 0.8071, Test Acc: 0.8400  
784 Epoch: 180, Loss: 0.0038, Train Acc: 1.0000, Val  
    Acc: 0.8071, Test Acc: 0.8400  
785 Epoch: 181, Loss: 0.0038, Train Acc: 1.0000, Val  
    Acc: 0.8071, Test Acc: 0.8400  
786 Epoch: 182, Loss: 0.0038, Train Acc: 1.0000, Val  
    Acc: 0.8071, Test Acc: 0.8400  
787 Epoch: 183, Loss: 0.0038, Train Acc: 1.0000, Val  
    Acc: 0.8071, Test Acc: 0.8400  
788 Epoch: 184, Loss: 0.0038, Train Acc: 1.0000, Val  
    Acc: 0.8071, Test Acc: 0.8400  
789 Epoch: 185, Loss: 0.0038, Train Acc: 1.0000, Val  
    Acc: 0.8071, Test Acc: 0.8400  
790 Epoch: 186, Loss: 0.0038, Train Acc: 1.0000, Val  
    Acc: 0.8071, Test Acc: 0.8400  
791 Epoch: 187, Loss: 0.0038, Train Acc: 1.0000, Val  
    Acc: 0.8071, Test Acc: 0.8400  
792 Epoch: 188, Loss: 0.0038, Train Acc: 1.0000, Val  
    Acc: 0.8071, Test Acc: 0.8400  
793 Epoch: 189, Loss: 0.0038, Train Acc: 1.0000, Val  
    Acc: 0.8071, Test Acc: 0.8400  
794 Epoch: 190, Loss: 0.0038, Train Acc: 1.0000, Val  
    Acc: 0.8071, Test Acc: 0.8400  
795 Epoch: 191, Loss: 0.0038, Train Acc: 1.0000, Val  
    Acc: 0.8071, Test Acc: 0.8400  
796 Epoch: 192, Loss: 0.0038, Train Acc: 1.0000, Val  
    Acc: 0.8071, Test Acc: 0.8400
```

```
798 Epoch: 193, Loss: 0.0038, Train Acc: 1.0000, Val  
Acc: 0.8071, Test Acc: 0.8400  
799 Epoch: 194, Loss: 0.0037, Train Acc: 1.0000, Val  
Acc: 0.8071, Test Acc: 0.8400  
800 Epoch: 195, Loss: 0.0037, Train Acc: 1.0000, Val  
Acc: 0.8071, Test Acc: 0.8400  
801 Epoch: 196, Loss: 0.0037, Train Acc: 1.0000, Val  
Acc: 0.8071, Test Acc: 0.8400  
802 Epoch: 197, Loss: 0.0037, Train Acc: 1.0000, Val  
Acc: 0.8071, Test Acc: 0.8400  
803 Epoch: 198, Loss: 0.0037, Train Acc: 1.0000, Val  
Acc: 0.8071, Test Acc: 0.8400  
804 Epoch: 199, Loss: 0.0037, Train Acc: 1.0000, Val  
Acc: 0.8071, Test Acc: 0.8400  
805 Epoch: 200, Loss: 0.0037, Train Acc: 1.0000, Val  
Acc: 0.8071, Test Acc: 0.8400  
806  
807 进程已结束, 退出代码为 0  
808
```