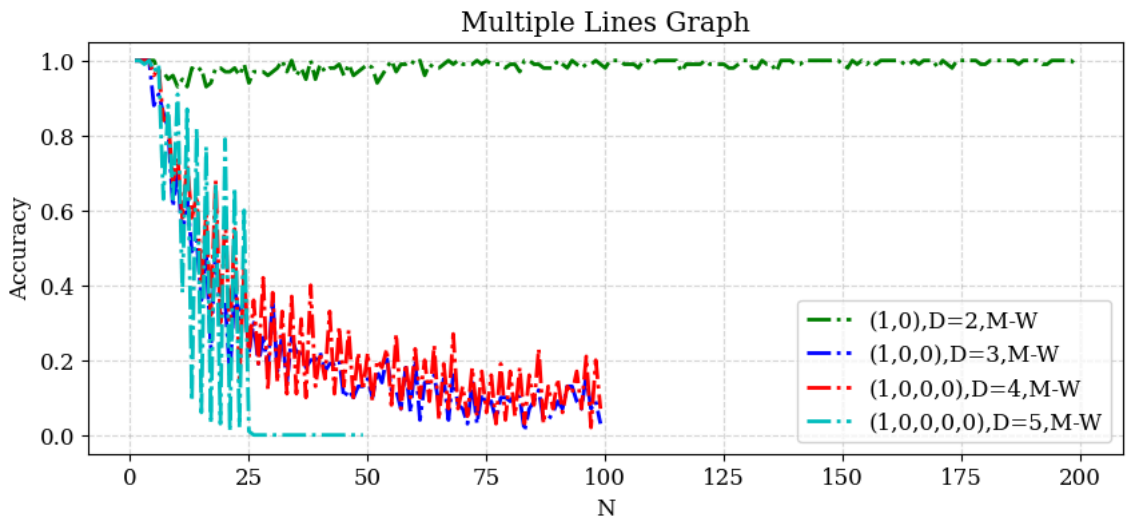
(1,0)

```
#only W
import matplotlib.pyplot as plt



# 그래프 스타일
plt.figure(figsize=(10,4))  # 가로 폭 넓히기
plt.rcParams['font.size'] = 12
plt.rcParams['font.family'] = 'serif'

# 예시 데이터
W2_x=[1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46,
W2_y=[1,1,1,1,1,0.97,0.97,0.95,0.96,0.93,0.95,0.93,0.98,0.97,0.98,0.93,0.94,0.98,0.98,0.97,0.97,0.98,0.96,0.99,0.94,0.97,0.97,0.97,0.96
plt.plot(W2_x, W2_y, linestyle='-.', color='g', linewidth=2, markersize=6, label='(1,0),D=2,M-W')

# 예시 데이터
W3_x=[1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46,
W3_y=[1,1,1,1,0.88,0.91,0.86,0.82,0.61,0.7,0.53,0.63,0.49,0.52,0.36,0.48,0.23,0.51,0.31,0.36,0.16,0.39,0.31,0.38,0.22,0.3,0.19,0.26,0.
plt.plot(W3_x, W3_y, linestyle='-.', color='b', linewidth=2, markersize=6, label='(1,0,0),D=3,M-W')

W4_x=[1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46,
W4_y=[1,1,1,1,1,0.96,0.98,0.84,0.85,0.67,0.74,0.58,0.72,0.58,0.64,0.4,0.59,0.32,0.68,0.3,0.59,0.26,0.55,0.15,0.44,0.21,0.36,0.19,0.42,0.
plt.plot(W4_x, W4_y, linestyle='-.', color='r', linewidth=2, markersize=6, label='(1,0,0,0),D=4,M-W')

W5_x=[1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46,
W5_y=[1,1,0.99,1,0.97,0.99,0.63,0.88,0.63,0.91,0.38,0.87,0.09,0.82,0.06,0.77,0.03,0.67,0.03,0.79,0.01,0.66,0.02,0.6,0.01,0,0,0,0,0,0,0,
plt.plot(W5_x, W5_y, linestyle='-.', color='c', linewidth=2, markersize=6, label='(1,0,0,0,0),D=5,M-W')

# 여러 선 그리기
# plt.plot(x, y1, marker='o', linestyle='-', color='b', linewidth=2, markersize=6, label='Data 1')
# plt.plot(x, y2, marker='s', linestyle='--', color='r', linewidth=2, markersize=6, label='Data 2')
# plt.plot(x, y3, marker='^', linestyle='-.', color='g', linewidth=2, markersize=6, label='Data 3')


# # 라벨, 제목, 그리드
plt.xlabel("N")
plt.ylabel("Accuracy")
plt.title("Multiple Lines Graph")
plt.grid(True, linestyle='--', alpha=0.5)

# 범례 표시
plt.legend()

# 저장 및 출력
plt.savefig("figure.svg", format="svg", bbox_inches='tight')
plt.plot()

```

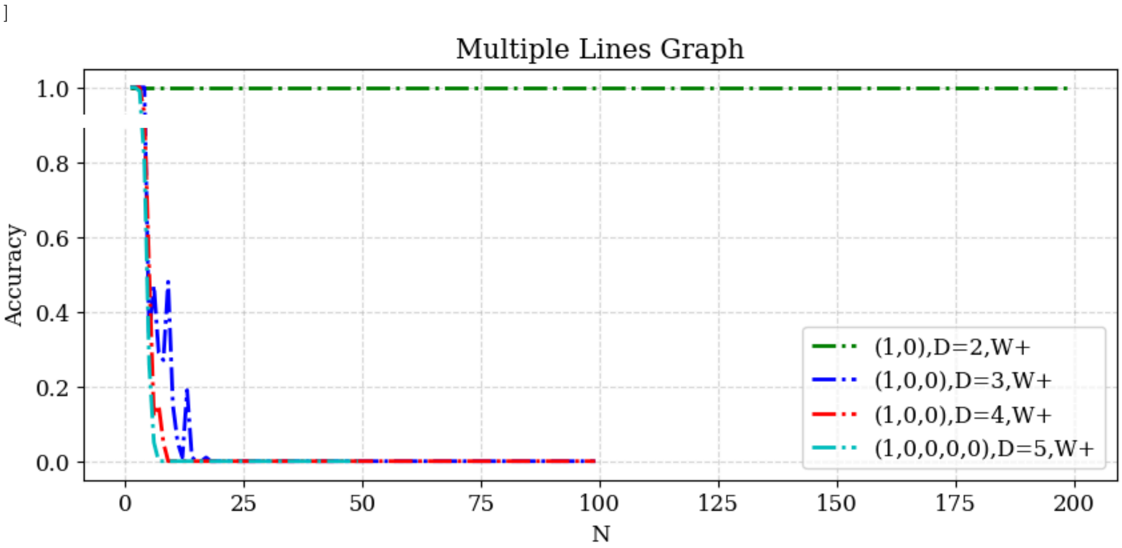
```
[]
```




```
#only W+
import matplotlib.pyplot as plt



```

```
# 그래프 스타일
plt.figure(figsize=(10,4))  # 가로 폭 넓히기
plt.rcParams['font.size'] = 12
plt.rcParams['font.family'] = 'serif'

# 예시 데이터
W2_x=[1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46
W2_y=[1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,
plt.plot(W2_x, W2_y, linestyle='-.', color='g', linewidth=2, markersize=6, label='(1,0),D=2,M-W+')

# 예시 데이터
x=[1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46,47
y=[1,1,1,1,1,1,0.98,0.97,0.95,0.89,0.7,0.89,0.71,0.67,0.44,0.79,0.42,0.65,0.42,0.71,0.33,0.5,0.23,0.67,0.29,0.61,0.27,0.62,0.22,0.59,0
plt.plot(W3_x, W3_y, linestyle='-.', color='b', linewidth=2, markersize=6, label='(1,0,0),D=3,M-W+')

W4_x=[1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46
W4_y=[1,1,1,0.93,0.51,0.12,0.15,0.05,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0
plt.plot(W4_x, W4_y, linestyle='-.', color='r', linewidth=2, markersize=6, label='(1,0,0),D=4,M-W+')

W5_x=[1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46
W5_y=[1,1,0.99,0.8,0.26,0.05,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0]
plt.plot(W5_x, W5_y, linestyle='-.', color='c', linewidth=2, markersize=6, label='(1,0,0,0,0),D=5,M-W+')

# 여러 선 그리기
# plt.plot(x, y1, marker='o', linestyle='-', color='b', linewidth=2, markersize=6, label='Data 1')
# plt.plot(x, y2, marker='s', linestyle='--', color='r', linewidth=2, markersize=6, label='Data 2')
# plt.plot(x, y3, marker='^', linestyle='-.', color='g', linewidth=2, markersize=6, label='Data 3')


# # 라벨, 제목, 그리드
plt.xlabel("N")
plt.ylabel("Accuracy")
plt.title("Multiple Lines Graph")
plt.grid(True, linestyle='--', alpha=0.5)

# 범례 표시
plt.legend()

# 저장 및 출력
plt.savefig("figure.svg", format="svg", bbox_inches='tight')
plt.plot()

```

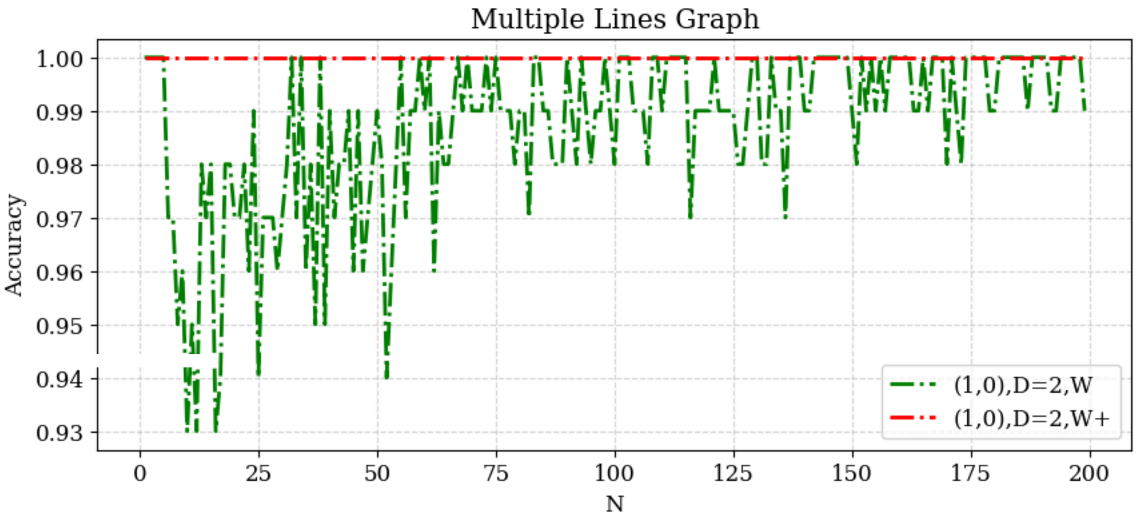
[]




```
#only W
import matplotlib.pyplot as plt



# 그래프 스타일
plt.figure(figsize=(10,4))  # 가로 폭 넓히기
plt.rcParams['font.size'] = 12
plt.rcParams['font.family'] = 'serif'

# 예시 데이터
W2_x=[1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46
W2_y=[1,1,1,1,1,0.97,0.97,0.95,0.96,0.93,0.95,0.93,0.98,0.97,0.98,0.93,0.94,0.98,0.98,0.97,0.97,0.98,0.96,0.99,0.94,0.97,0.97,0.97,0.9
plt.plot(W2_x, W2_y, linestyle='-.', color='g', linewidth=2, markersize=6, label='(1,0),D=2,W')

# 예시 데이터
```

```
WW2_x=[1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,4
WW2_y=[1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1
plt.plot(WW2_x, WW2_y, linestyle='-.', color='r', linewidth=2, markersize=6, label='(1,0),D=2,W+')

# 여러 선 그리기
# plt.plot(x, y1, marker='o', linestyle='-', color='b', linewidth=2, markersize=6, label='Data 1')
# plt.plot(x, y2, marker='s', linestyle='--', color='r', linewidth=2, markersize=6, label='Data 2')
# plt.plot(x, y3, marker='^', linestyle='-.', color='g', linewidth=2, markersize=6, label='Data 3')


# # 라벨, 제목, 그리드
plt.xlabel("N")
plt.ylabel("Accuracy")
plt.title("Multiple Lines Graph")
plt.grid(True, linestyle='--', alpha=0.5)

# 범례 표시
plt.legend()

# 저장 및 출력
plt.savefig("figure.svg", format="svg", bbox_inches='tight')
plt.plot()

```

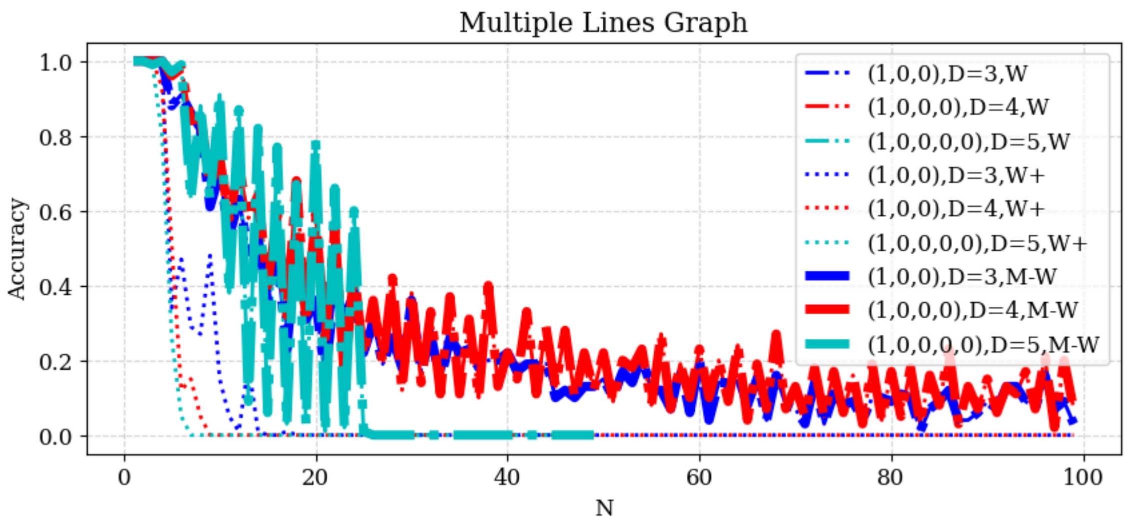
[]




```
#only W
import matplotlib.pyplot as plt



# 그래프 스타일
plt.figure(figsize=(10,4))  # 가로 폭 넓히기
plt.rcParams['font.size'] = 12
plt.rcParams['font.family'] = 'serif'

# 예시 데이터
W3_x=[1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46
W3_y=[1,1,1,1,0.88,0.91,0.86,0.82,0.61,0.7,0.53,0.63,0.49,0.52,0.36,0.48,0.23,0.51,0.31,0.36,0.16,0.39,0.31,0.38,0.22,0.3,0.19,0.26,0.
plt.plot(W3_x, W3_y, linestyle='-.', color='b', linewidth=2, markersize=6, label='(1,0,0),D=3,W')

W4_x=[1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46
W4_y=[1,1,1,1,0.96,0.98,0.84,0.85,0.67,0.74,0.58,0.72,0.58,0.64,0.4,0.59,0.32,0.68,0.3,0.59,0.26,0.55,0.15,0.44,0.21,0.36,0.19,0.42,0.
plt.plot(W4_x, W4_y, linestyle='-.', color='r', linewidth=2, markersize=6, label='(1,0,0,0),D=4,W')

W5_x=[1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46
W5_y=[1,1,0.99,1,0.97,0.99,0.63,0.88,0.63,0.91,0.38,0.87,0.09,0.82,0.06,0.77,0.03,0.67,0.03,0.79,0.01,0.66,0.02,0.6,0.01,0,0,0,0,0,0,0
plt.plot(W5_x, W5_y, linestyle='-.', color='c', linewidth=2, markersize=6, label='(1,0,0,0,0),D=5,W')

# 예시 데이터
WW3_x=[1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,4
WW3_y=[1,1,1,1,0.34,0.47,0.29,0.27,0.48,0.15,0.05,0.01,0.19,0.01,0,0,0.01,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,
plt.plot(WW3_x, WW3_y, linestyle=':', color='b', linewidth=2, markersize=6, label='(1,0,0),D=3,W+')

WW4_x=[1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,4
WW4_y=[1,1,1,0.93,0.51,0.12,0.15,0.05,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,
plt.plot(WW4_x, WW4_y, linestyle=':', color='r', linewidth=2, markersize=6, label='(1,0,0),D=4,W+')

WW5_x=[1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,4
WW5_y=[1,1,0.99,0.8,0.26,0.05,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0]
plt.plot(WW5_x, WW5_y, linestyle=':', color='c', linewidth=2, markersize=6, label='(1,0,0,0,0),D=5,W+')
```

```



# 여러 선 그리기
# plt.plot(x, y1, marker='o', linestyle='-', color='b', linewidth=2, markersize=6, label='Data 1')
# plt.plot(x, y2, marker='s', linestyle='--', color='r', linewidth=2, markersize=6, label='Data 2')
# plt.plot(x, y3, marker='^', linestyle='-.', color='g', linewidth=2, markersize=6, label='Data 3')


# # 라벨, 제목, 그리드
plt.xlabel("N")
plt.ylabel("Accuracy")
plt.title("Multiple Lines Graph")
plt.grid(True, linestyle='--', alpha=0.5)

# 범례 표시
plt.legend()

# 저장 및 출력
plt.savefig("figure.svg", format="svg", bbox_inches='tight')
plt.plot()

```

[]

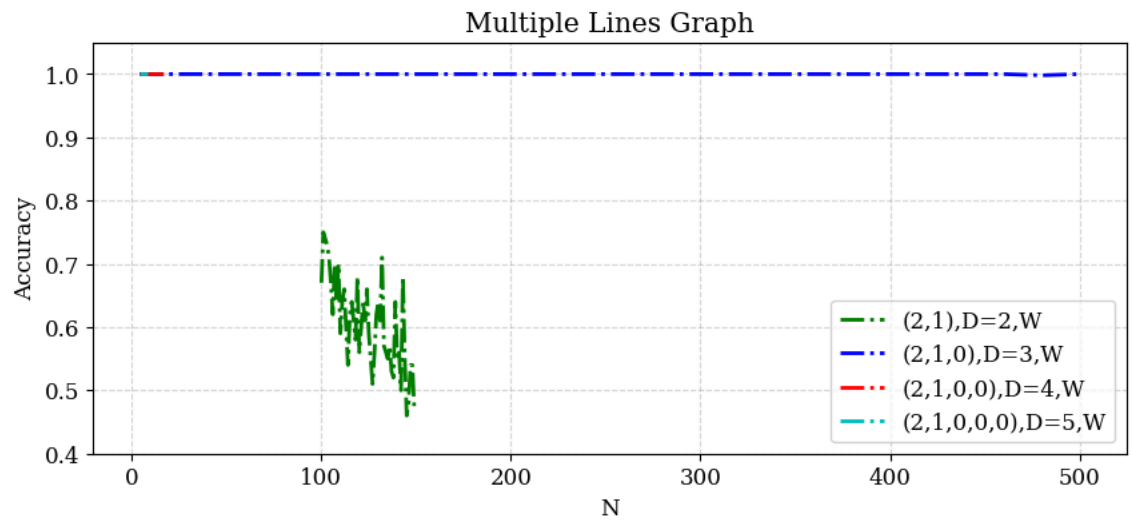


(2,1)

```
#only W
import matplotlib.pyplot as plt



# 그래프 스타일
plt.figure(figsize=(10,4))  # 가로 폭 넓히기
plt.rcParams['font.size'] = 12
plt.rcParams['font.family'] = 'serif'

# 예시 데이터
W2_x=[100,101,102,103,104,105,106,107,108,109,110,111,112,113,114,115,116,117,118,119,120,121,122,123,124,125,126,127,128,129,130,131,
W2_y=[0.67,0.75,0.74,0.73,0.71,0.67,0.62,0.7,0.64,0.7,0.59,0.64,0.66,0.6,0.54,0.62,0.64,0.61,0.58,0.68,0.56,0.6,0.64,0.61,0.66,0.59,0.
plt.plot(W2_x, W2_y, linestyle='-.', color='g', linewidth=2, markersize=6, label='(2,1),D=2,W')

# 예시 데이터
W3_x=[4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46,47,4
W3_y=[1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,
plt.plot(W3_x, W3_y, linestyle='-.', color='b', linewidth=2, markersize=6, label='(2,1,0),D=3,W')

W4_x=[4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19]
W4_y=[1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1]
plt.plot(W4_x, W4_y, linestyle='-.', color='r', linewidth=2, markersize=6, label='(2,1,0,0),D=4,W')

W5_x=[4,5,6,7,8]
W5_y=[1,1,1,1,1]
plt.plot(W5_x, W5_y, linestyle='-.', color='c', linewidth=2, markersize=6, label='(2,1,0,0,0),D=5,W')

# 여러 선 그리기
# plt.plot(x, y1, marker='o', linestyle='-', color='b', linewidth=2, markersize=6, label='Data 1')
# plt.plot(x, y2, marker='s', linestyle='--', color='r', linewidth=2, markersize=6, label='Data 2')
```

```
# plt.plot(x, y3, marker='^', linestyle='-.', color='g', linewidth=2, markersize=6, label='Data 3')


# # 라벨, 제목, 그리드
plt.xlabel("N")
plt.ylabel("Accuracy")
plt.title("Multiple Lines Graph")
plt.grid(True, linestyle='--', alpha=0.5)

# 범례 표시
plt.legend()

# 저장 및 출력
plt.ylim(0.4, 1.05)  # y축 최소 0, 최대 1.1
plt.savefig("figure.svg", format="svg", bbox_inches='tight')
plt.plot()

```

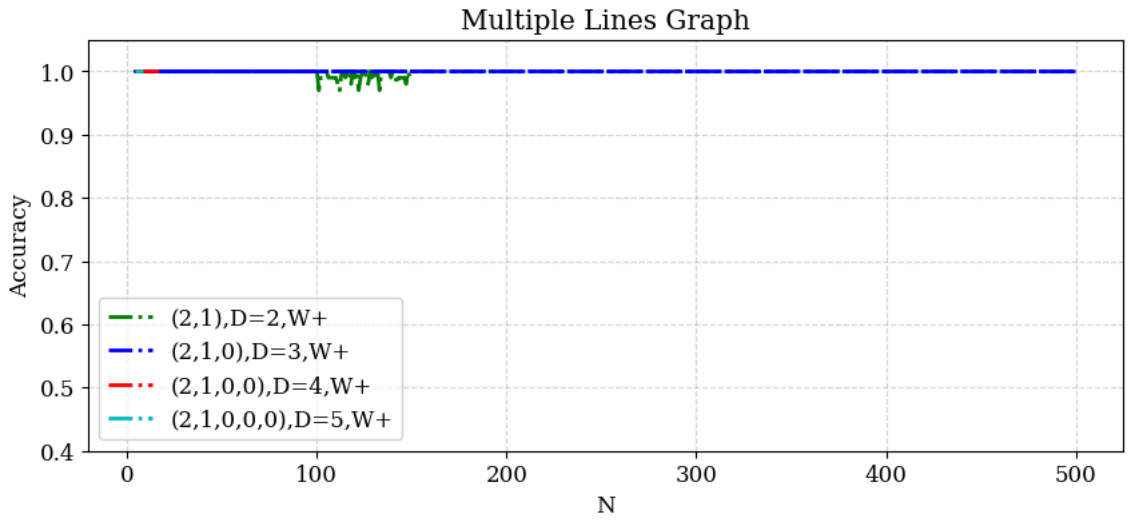
[]




```
#only W
import matplotlib.pyplot as plt



# 그래프 스타일
plt.figure(figsize=(10,4))  # 가로 폭 넓히기
plt.rcParams['font.size'] = 12
plt.rcParams['font.family'] = 'serif'

# 예시 데이터
W2_x=[100,101,102,103,104,105,106,107,108,109,110,111,112,113,114,115,116,117,118,119,120,121,122,123,124,125,126,127,128,129,130,131,
W2_y=[1,0.97,0.99,0.99,1,1,0.99,0.99,0.99,0.99,0.99,0.98,0.97,1,1,0.99,1,1,0.98,1,0.99,1,0.97,0.99,1,1,0.99,0.98,1,0.99,1,0.99,1,0.97,
plt.plot(W2_x, W2_y, linestyle='-.', color='g', linewidth=2, markersize=6, label='(2,1),D=2,W+')

# 예시 데이터
W3_x=[10,100,101,102,103,104,105,106,107,108,109,11,110,111,112,113,114,115,116,117,118,119,12,120,121,122,123,124,125,126,127,128,12
W3_y=[1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,
plt.plot(W3_x, W3_y, linestyle='-.', color='b', linewidth=2, markersize=6, label='(2,1,0),D=3,W+')

W4_x=[4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19]
W4_y=[1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1]
plt.plot(W4_x, W4_y, linestyle='-.', color='r', linewidth=2, markersize=6, label='(2,1,0,0),D=4,W+')

W5_x=[4,5,6,7,8]
W5_y=[1,1,1,1,1]
plt.plot(W5_x, W5_y, linestyle='-.', color='c', linewidth=2, markersize=6, label='(2,1,0,0,0),D=5,W+')

# 여러 선 그리기
# plt.plot(x, y1, marker='o', linestyle='-', color='b', linewidth=2, markersize=6, label='Data 1')
# plt.plot(x, y2, marker='s', linestyle='--', color='r', linewidth=2, markersize=6, label='Data 2')
# plt.plot(x, y3, marker='^', linestyle='-.', color='g', linewidth=2, markersize=6, label='Data 3')


# # 라벨, 제목, 그리드
plt.xlabel("N")
plt.ylabel("Accuracy")
plt.title("Multiple Lines Graph")
plt.grid(True, linestyle='--', alpha=0.5)

# 범례 표시
```

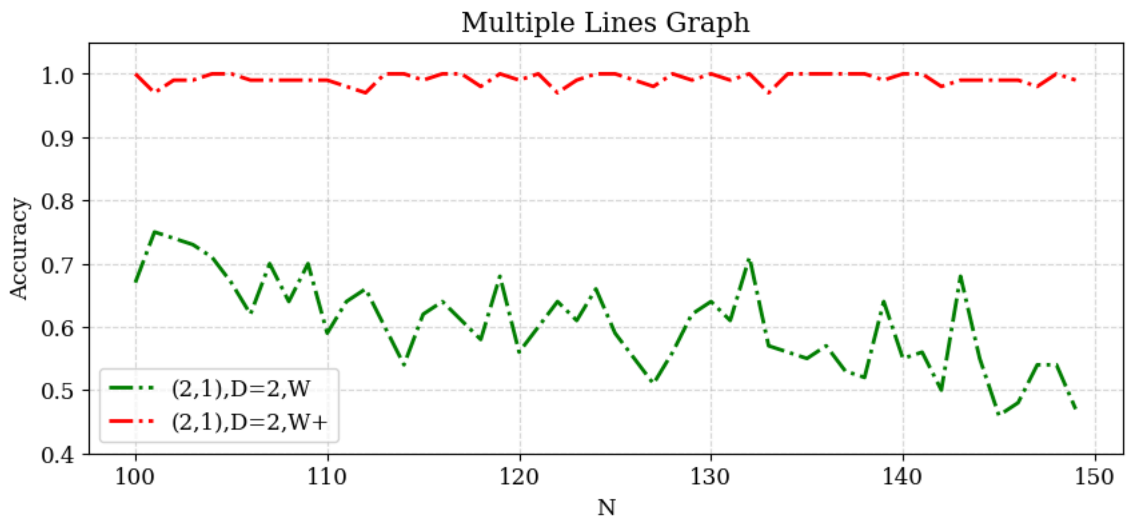
```
plt.legend()

# 저장 및 출력
plt.ylim(0.4, 1.05)  # y축 최소 0, 최대 1.1
plt.savefig("figure.svg", format="svg", bbox_inches='tight')
plt.plot()

```

[]




```
#only W
import matplotlib.pyplot as plt



# 그래프 스타일
plt.figure(figsize=(10,4))  # 가로 폭 넓히기
plt.rcParams['font.size'] = 12
plt.rcParams['font.family'] = 'serif'

# 예시 데이터
W2_x=[100,101,102,103,104,105,106,107,108,109,110,111,112,113,114,115,116,117,118,119,120,121,122,123,124,125,126,127,128,129,130,131,
W2_y=[0.67,0.75,0.74,0.73,0.71,0.67,0.62,0.7,0.64,0.7,0.59,0.64,0.66,0.6,0.54,0.62,0.64,0.61,0.58,0.68,0.56,0.6,0.64,0.61,0.66,0.59,0.
plt.plot(W2_x, W2_y, linestyle='-.', color='g', linewidth=2, markersize=6, label='(2,1),D=2,W')

# 예시 데이터
WW2_x=[100,101,102,103,104,105,106,107,108,109,110,111,112,113,114,115,116,117,118,119,120,121,122,123,124,125,126,127,128,129,130,131
WW2_y=[1,0.97,0.99,0.99,1,1,0.99,0.99,0.99,0.99,0.99,0.98,0.97,1,1,0.99,1,1,0.98,1,0.99,1,0.97,0.99,1,1,0.99,0.98,1,0.99,1,0.99,1,0.97
plt.plot(WW2_x, WW2_y, linestyle='-.', color='r', linewidth=2, markersize=6, label='(2,1),D=2,W+')

# 여러 선 그리기
# plt.plot(x, y1, marker='o', linestyle='-', color='b', linewidth=2, markersize=6, label='Data 1')
# plt.plot(x, y2, marker='s', linestyle='--', color='r', linewidth=2, markersize=6, label='Data 2')
# plt.plot(x, y3, marker='^', linestyle='-.', color='g', linewidth=2, markersize=6, label='Data 3')


# # 라벨, 제목, 그리드
plt.xlabel("N")
plt.ylabel("Accuracy")
plt.title("Multiple Lines Graph")
plt.grid(True, linestyle='--', alpha=0.5)

# 범례 표시
plt.legend()

# 저장 및 출력
plt.ylim(0.4, 1.05)  # y축 최소 0, 최대 1.1
plt.savefig("figure.svg", format="svg", bbox_inches='tight')
plt.plot()

```

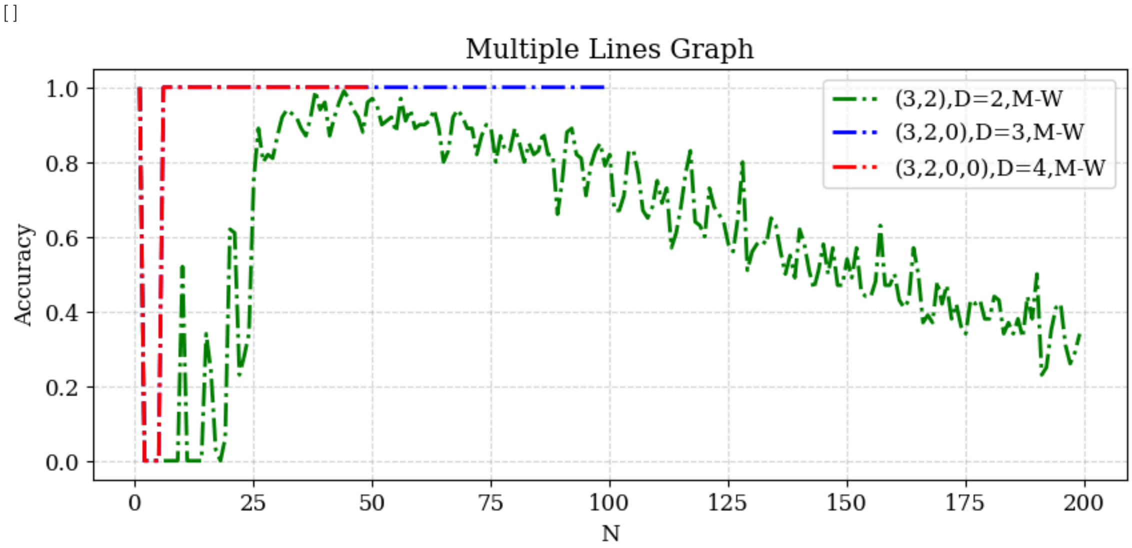
[]



(3,2)

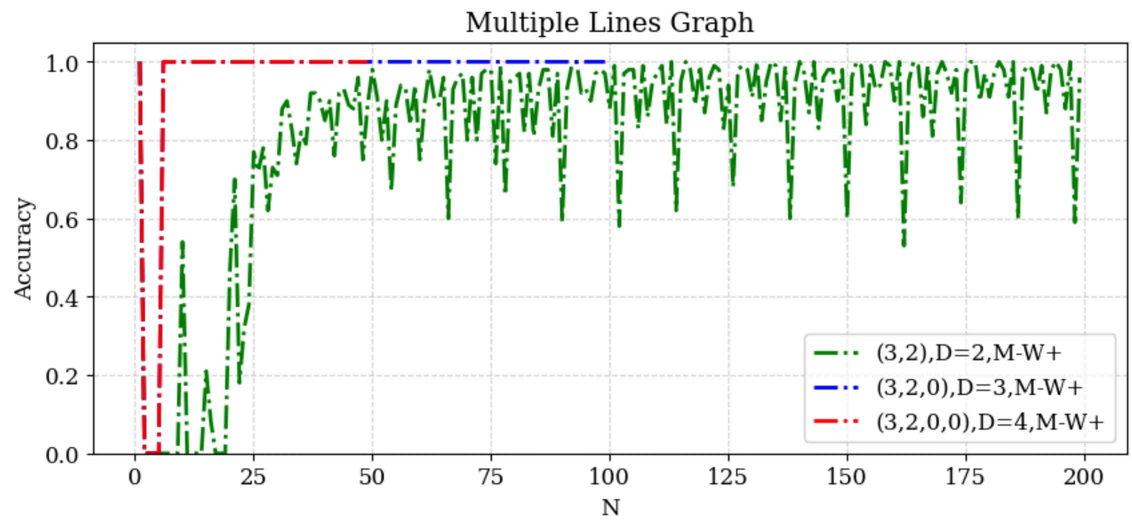
```
#only W
import matplotlib.pyplot as plt



# 그래프 스타일
plt.figure(figsize=(10,4))  # 가로 폭 넓히기
plt.rcParams['font.size'] = 12
plt.rcParams['font.family'] = 'serif'

# 예시 데이터
W2_x=[1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46
W2_y=[1,0,0,0,0,0,0,0,0,0.52,0,0,0,0,0.34,0.24,0.03,0,0.06,0.62,0.61,0.23,0.28,0.34,0.75,0.89,0.8,0.82,0.81,0.87,0.92,0.94,0.93,0.92,0
plt.plot(W2_x, W2_y, linestyle='-.', color='g', linewidth=2, markersize=6, label='(3,2),D=2,M-W')

# 예시 데이터
W3_x=[1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46
W3_y=[1,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,
plt.plot(W3_x, W3_y, linestyle='-.', color='b', linewidth=2, markersize=6, label='(3,2,0),D=3,M-W')

W4_x=[1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46
W4_y=[1,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1]
plt.plot(W4_x, W4_y, linestyle='-.', color='r', linewidth=2, markersize=6, label='(3,2,0,0),D=4,M-W')

# W5_x=[1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,
# W5_y=[1,1,0.99,1,0.97,0.99,0.63,0.88,0.63,0.91,0.38,0.87,0.09,0.82,0.06,0.77,0.03,0.67,0.03,0.79,0.01,0.66,0.02,0.6,0.01,0,0,0,0,0,0
# plt.plot(W5_x, W5_y, linestyle='-.', color='c', linewidth=2, markersize=6, label='(1,0,0,0,0),D=5,W')

# 여러 선 그리기
# plt.plot(x, y1, marker='o', linestyle='-', color='b', linewidth=2, markersize=6, label='Data 1')
# plt.plot(x, y2, marker='s', linestyle='--', color='r', linewidth=2, markersize=6, label='Data 2')
# plt.plot(x, y3, marker='^', linestyle='-.', color='g', linewidth=2, markersize=6, label='Data 3')


# # 라벨, 제목, 그리드
plt.xlabel("N")
plt.ylabel("Accuracy")
plt.title("Multiple Lines Graph")
plt.grid(True, linestyle='--', alpha=0.5)

# 범례 표시
plt.legend()

# 저장 및 출력
plt.savefig("figure.svg", format="svg", bbox_inches='tight')
plt.plot()

```

[ ]



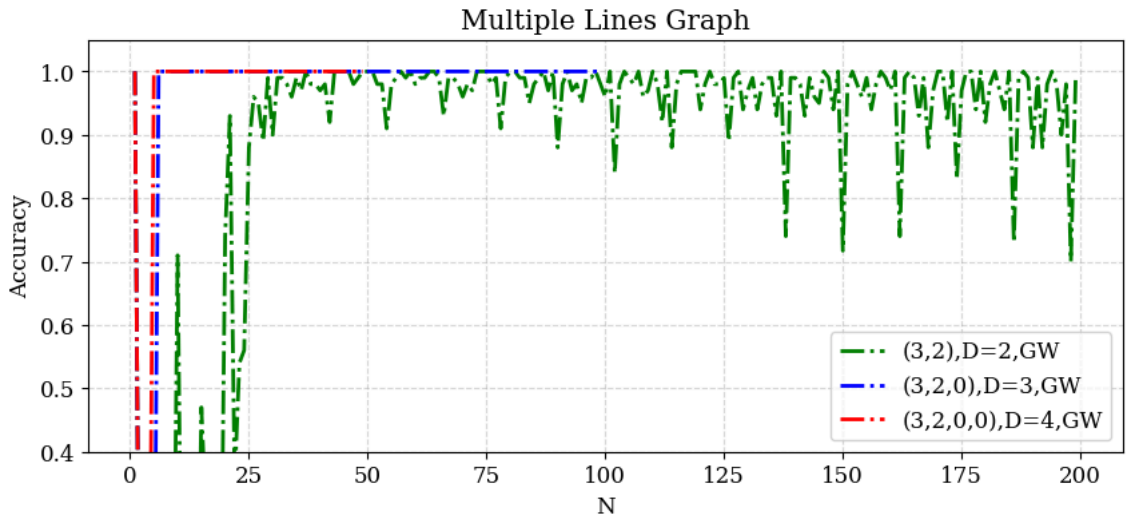

```
#only W+
import matplotlib.pyplot as plt



# 그래프 스타일
plt.figure(figsize=(10,4))  # 가로 폭 넓히기
plt.rcParams['font.size'] = 12
plt.rcParams['font.family'] = 'serif'

# 예시 데이터
W2_x=[1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,4
W2_y=[1,0,0,0,0,0,0,0,0,0,0.54,0,0,0,0,0,0.21,0.08,0,0,0,0,0.47,0.7,0.18,0.32,0.38,0.77,0.72,0.78,0.62,0.73,0.71,0.88,0.9,0.83,0.74,0.82,0.7
plt.plot(W2_x, W2_y, linestyle='-.', color='g', linewidth=2, markersize=6, label='(3,2),D=2,M-W+')

# 예시 데이터
W3_x=[1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,4
W3_y=[1,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,
plt.plot(W3_x, W3_y, linestyle='-.', color='b', linewidth=2, markersize=6, label='(3,2,0),D=3,M-W+')

W4_x=[1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,4
W4_y=[1,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1]
plt.plot(W4_x, W4_y, linestyle='-.', color='r', linewidth=2, markersize=6, label='(3,2,0,0),D=4,M-W+')

# W5_x=[4,5,6,7,8]
# W5_y=[1,1,1,1,1]
# plt.plot(W5_x, W5_y, linestyle='-.', color='c', linewidth=2, markersize=6, label='(3,2,0,0,0),D=5,W+')

# 여러 선 그리기
# plt.plot(x, y1, marker='o', linestyle='-', color='b', linewidth=2, markersize=6, label='Data 1')
# plt.plot(x, y2, marker='s', linestyle='--', color='r', linewidth=2, markersize=6, label='Data 2')
# plt.plot(x, y3, marker='^', linestyle='-.', color='g', linewidth=2, markersize=6, label='Data 3')


# # 라벨, 제목, 그리드
plt.xlabel("N")
plt.ylabel("Accuracy")
plt.title("Multiple Lines Graph")
plt.grid(True, linestyle='--', alpha=0.5)

# 범례 표시
plt.legend()

# 저장 및 출력
plt.ylim(0, 1.05)  # y축 최소 0, 최대 1.1
plt.savefig("figure.svg", format="svg", bbox_inches='tight')
plt.plot()

```

[]



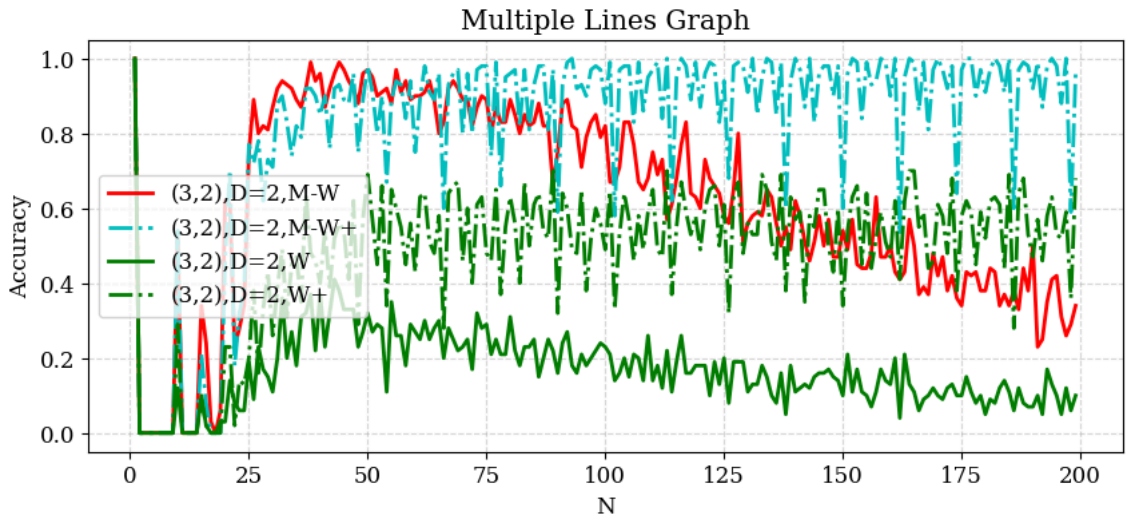

```
#only W+
import matplotlib.pyplot as plt



# 그래프 스타일
plt.figure(figsize=(10,4))  # 가로 폭 넓히기
plt.rcParams['font.size'] = 12
plt.rcParams['font.family'] = 'serif'

# 예시 데이터
W2_x=[1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46
W2_y=[1,0,0,0,0,0,0,0,0,0.71,0,0,0,0,0.47,0.29,0.01,0,0.05,0.74,0.93,0.35,0.54,0.56,0.88,0.96,0.95,0.89,0.99,0.9,0.99,0.99,0.98,0.96,0
plt.plot(W2_x, W2_y, linestyle='-.', color='g', linewidth=2, markersize=6, label='(3,2),D=2,GW')

# 예시 데이터
W3_x=[1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46
W3_y=[1,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,
plt.plot(W3_x, W3_y, linestyle='-.', color='b', linewidth=2, markersize=6, label='(3,2,0),D=3,GW')

W4_x=[1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46
W4_y=[1,0,0,0.01,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1]
plt.plot(W4_x, W4_y, linestyle='-.', color='r', linewidth=2, markersize=6, label='(3,2,0,0),D=4,GW')

# W5_x=[4,5,6,7,8]
# W5_y=[1,1,1,1,1]
# plt.plot(W5_x, W5_y, linestyle='-.', color='c', linewidth=2, markersize=6, label='(3,2,0,0,0),D=5,W+')

# 여러 선 그리기
# plt.plot(x, y1, marker='o', linestyle='-', color='b', linewidth=2, markersize=6, label='Data 1')
# plt.plot(x, y2, marker='s', linestyle='--', color='r', linewidth=2, markersize=6, label='Data 2')
# plt.plot(x, y3, marker='^', linestyle='-.', color='g', linewidth=2, markersize=6, label='Data 3')


# # 라벨, 제목, 그리드
plt.xlabel("N")
plt.ylabel("Accuracy")
plt.title("Multiple Lines Graph")
plt.grid(True, linestyle='--', alpha=0.5)

# 범례 표시
plt.legend()

# 저장 및 출력
plt.ylim(0.4, 1.05)  # y축 최소 0, 최대 1.1
plt.savefig("figure.svg", format="svg", bbox_inches='tight')
plt.plot()

```

[]



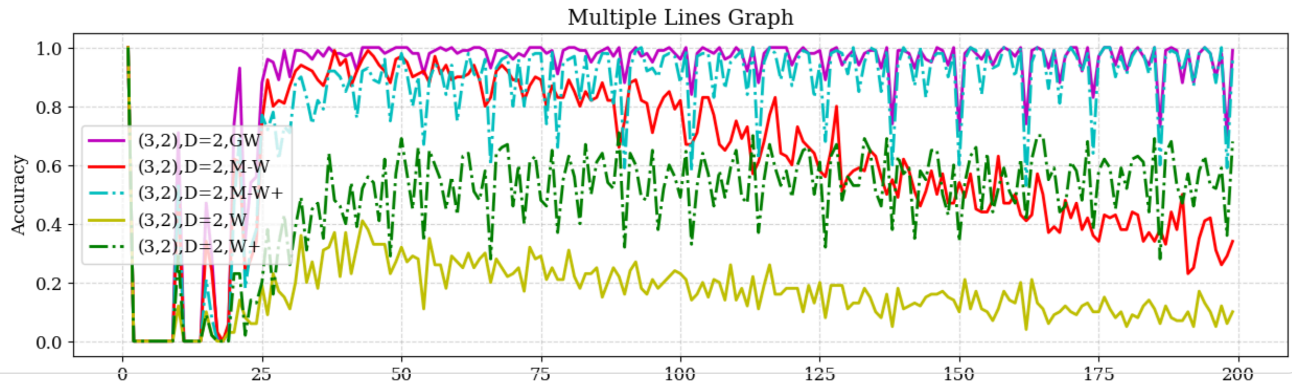

```
#only W
import matplotlib.pyplot as plt



# 그래프 스타일
plt.figure(figsize=(10,4))  # 가로 폭 넓히기
plt.rcParams['font.size'] = 12
plt.rcParams['font.family'] = 'serif'

# 예시 데이터
WWW2_x=[1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,
WWW2_y=[1,0,0,0,0,0,0,0,0,0.52,0,0,0,0,0.34,0.24,0.03,0,0.06,0.62,0.61,0.23,0.28,0.34,0.75,0.89,0.8,0.82,0.81,0.87,0.92,0.94,0.93,0.92
plt.plot(WWW2_x, WWW2_y, linestyle='-', color='r', linewidth=2, markersize=6, label='(3,2),D=2,M-W')

# 예시 데이터
WWWW2_x=[1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45
WWWW2_y=[1,0,0,0,0,0,0,0,0,0,0.54,0,0,0,0,0.21,0.08,0,0,0,0.47,0.7,0.18,0.32,0.38,0.77,0.72,0.78,0.62,0.73,0.71,0.88,0.9,0.83,0.74,0.82,
plt.plot(WWWW2_x, WWWW2_y, linestyle='-.', color='c', linewidth=2, markersize=6, label='(3,2),D=2,M-W+')

# 예시 데이터
W2_x=[1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46
W2_y=[1,0,0,0,0,0,0,0,0,0,0.12,0,0,0,0,0.1,0.02,0,0,0.03,0.03,0.14,0.08,0.06,0.06,0.19,0.09,0.23,0.17,0.15,0.11,0.2,0.36,0.2,0.27,0.18,0
plt.plot(W2_x, W2_y, linestyle='-', color='g', linewidth=2, markersize=6, label='(3,2),D=2,W')

# 예시 데이터
WW2_x=[1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,4
WW2_y=[1,0,0,0,0,0,0,0,0,0,0.29,0,0,0,0,0.09,0.02,0,0,0,0.23,0.23,0.02,0.14,0.13,0.2,0.38,0.16,0.33,0.43,0.26,0.39,0.49,0.31,0.45,0.47,0
plt.plot(WW2_x, WW2_y, linestyle='-.', color='g', linewidth=2, markersize=6, label='(3,2),D=2,W+')


# # 라벨, 제목, 그리드
plt.xlabel("N")
plt.ylabel("Accuracy")
plt.title("Multiple Lines Graph")
plt.grid(True, linestyle='--', alpha=0.5)

# 범례 표시
plt.legend()

# 저장 및 출력
plt.savefig("figure.svg", format="svg", bbox_inches='tight')
plt.plot()

```

[]



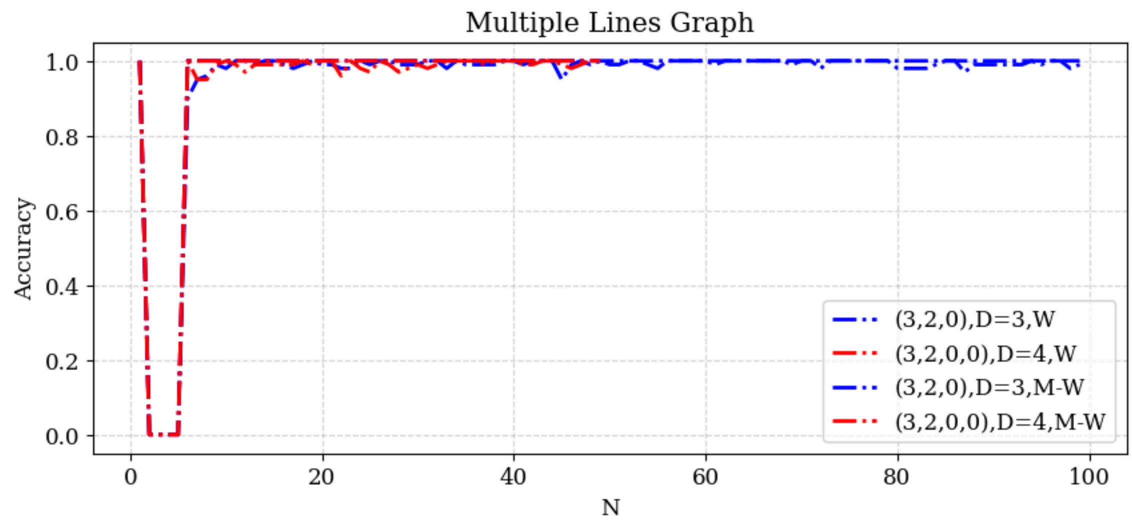

```
#only W
import matplotlib.pyplot as plt



# 그래프 스타일
plt.figure(figsize=(15,4))  # 가로 폭 넓히기
plt.rcParams['font.size'] = 12
plt.rcParams['font.family'] = 'serif'
# 예시 데이터
W2_x=[1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46
W2_y=[1,0,0,0,0,0,0,0,0,0,0.71,0,0,0,0,0.47,0.29,0.01,0,0.05,0.74,0.93,0.35,0.54,0.56,0.88,0.96,0.95,0.89,0.99,0.9,0.99,0.99,0.98,0.96,0
plt.plot(W2_x, W2_y, linestyle='-', color='m', linewidth=2, markersize=6, label='(3,2),D=2,GW')

# 예시 데이터
WWW2_x=[1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,
WWW2_y=[1,0,0,0,0,0,0,0,0,0,0.52,0,0,0,0,0.34,0.24,0.03,0,0.06,0.62,0.61,0.23,0.28,0.34,0.75,0.89,0.8,0.82,0.81,0.87,0.92,0.94,0.93,0.92
plt.plot(WWW2_x, WWW2_y, linestyle='-', color='r', linewidth=2, markersize=6, label='(3,2),D=2,M-W')

# 예시 데이터
WWWW2_x=[1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45
WWWW2_y=[1,0,0,0,0,0,0,0,0,0,0.54,0,0,0,0,0.21,0.08,0,0,0,0.47,0.7,0.18,0.32,0.38,0.77,0.72,0.78,0.62,0.73,0.71,0.88,0.9,0.83,0.74,0.82,
plt.plot(WWWW2_x, WWWW2_y, linestyle='-.', color='c', linewidth=2, markersize=6, label='(3,2),D=2,M-W+')

# 예시 데이터
W2_x=[1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46
W2_y=[1,0,0,0,0,0,0,0,0,0,0.12,0,0,0,0,0.1,0.02,0,0,0.03,0.03,0.14,0.08,0.06,0.06,0.19,0.09,0.23,0.17,0.15,0.11,0.2,0.36,0.2,0.27,0.18,0
plt.plot(W2_x, W2_y, linestyle='-', color='y', linewidth=2, markersize=6, label='(3,2),D=2,W')

# 예시 데이터
WW2_x=[1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,4
WW2_y=[1,0,0,0,0,0,0,0,0,0,0.29,0,0,0,0,0.09,0.02,0,0,0,0.23,0.23,0.02,0.14,0.13,0.2,0.38,0.16,0.33,0.43,0.26,0.39,0.49,0.31,0.45,0.47,0
plt.plot(WW2_x, WW2_y, linestyle='-.', color='g', linewidth=2, markersize=6, label='(3,2),D=2,W+')


# # 라벨, 제목, 그리드
plt.xlabel("N")
plt.ylabel("Accuracy")
plt.title("Multiple Lines Graph")
plt.grid(True, linestyle='--', alpha=0.5)

# 범례 표시
plt.legend()

# 저장 및 출력
plt.savefig("figure.svg", format="svg", bbox_inches='tight')
plt.plot()

```

[ ]




```python
#only W
import matplotlib.pyplot as plt



# 그래프 스타일
plt.figure(figsize=(10,4))  # 가로 폭 넓히기
plt.rcParams['font.size'] = 12
plt.rcParams['font.family'] = 'serif'


# 예시 데이터
W3_x=[1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46
W3_y=[1,0,0,0,0,0.9,0.95,0.96,0.99,0.98,1,1,0.99,1,1,0.99,0.98,0.99,1,0.99,0.99,0.98,0.98,1,0.99,1,1,0.99,0.99,0.99,1,1,0.98,1,0.99,0.
plt.plot(W3_x, W3_y, linestyle='-.', color='b', linewidth=2, markersize=6, label='(3,2,0),D=3,W')

W4_x=[1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46
W4_y=[1,0,0,0,0,1,0.95,0.95,0.99,1,0.99,0.97,0.99,0.99,0.99,0.99,0.99,1,0.99,1,1,0.96,1,0.98,0.97,1,0.99,0.97,0.98,0.99,0.98,0.99,1,1,
plt.plot(W4_x, W4_y, linestyle='-.', color='r', linewidth=2, markersize=6, label='(3,2,0,0),D=4,W')

# 예시 데이터
W3_x=[1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46
W3_y=[1,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,
plt.plot(W3_x, W3_y, linestyle='-.', color='b', linewidth=2, markersize=6, label='(3,2,0),D=3,M-W')

W4_x=[1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46
W4_y=[1,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1]
plt.plot(W4_x, W4_y, linestyle='-.', color='r', linewidth=2, markersize=6, label='(3,2,0,0),D=4,M-W')



# # 라벨, 제목, 그리드
plt.xlabel("N")
plt.ylabel("Accuracy")
plt.title("Multiple Lines Graph")
plt.grid(True, linestyle='--', alpha=0.5)

# 범례 표시
plt.legend()

# 저장 및 출력
plt.savefig("figure.svg", format="svg", bbox_inches='tight')
plt.plot()
```

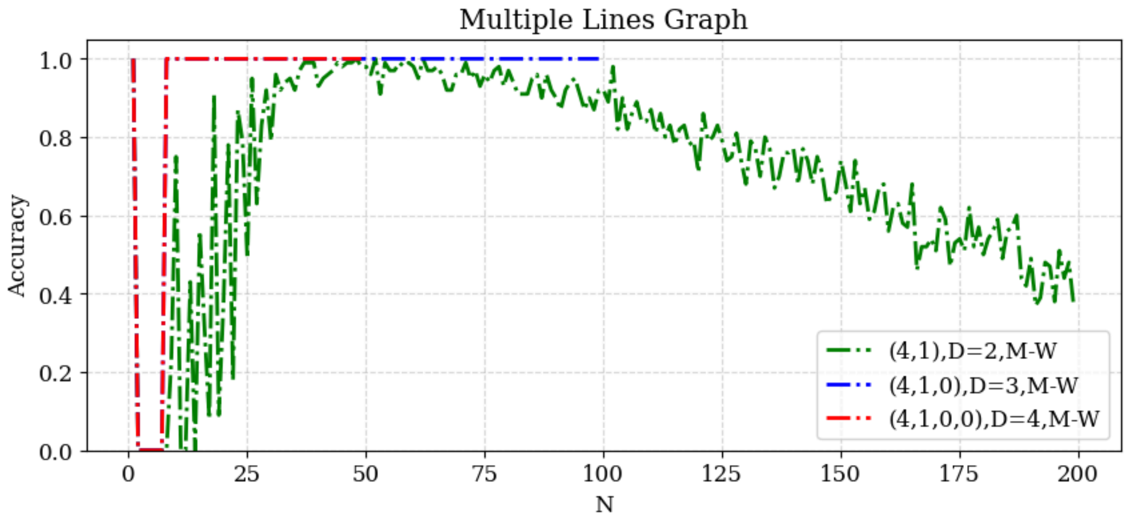
[]



(4,1)

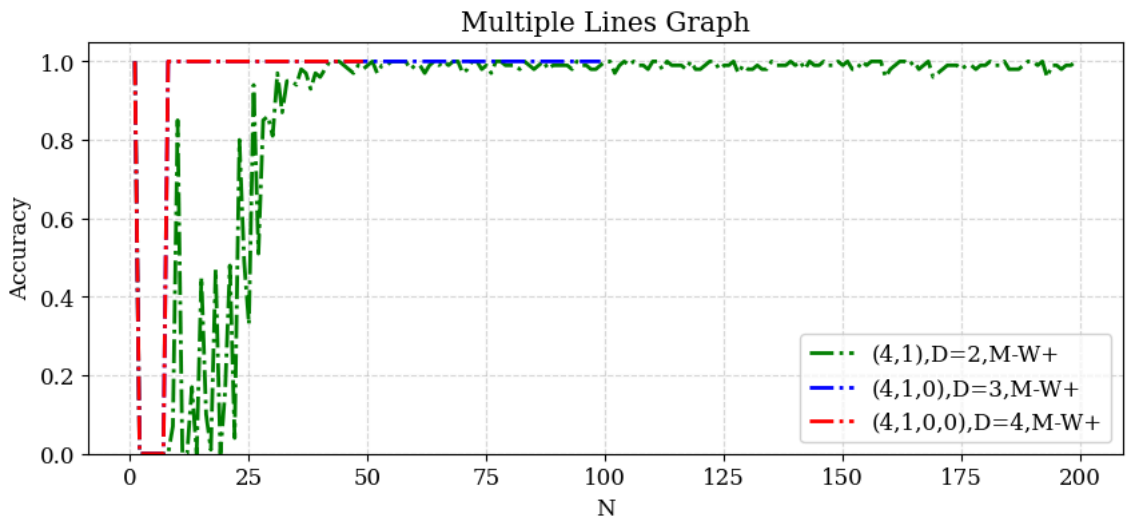
```
#only W
import matplotlib.pyplot as plt



# 그래프 스타일
plt.figure(figsize=(10,4))  # 가로 폭 넓히기
plt.rcParams['font.size'] = 12
plt.rcParams['font.family'] = 'serif'

# 예시 데이터
W2_x=[1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46
W2_y=[1,0,0,0,0,0,0,0,0.23,0.75,0,0,0.43,0,0.56,0.31,0.08,0.91,0.09,0.38,0.78,0.18,0.87,0.79,0.49,0.95,0.63,0.83,0.92,0.79,0.96,0.92,0
plt.plot(W2_x, W2_y, linestyle='-.', color='g', linewidth=2, markersize=6, label='(4,1),D=2,M-W')

# 예시 데이터
W3_x=[1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46
W3_y=[1,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,
plt.plot(W3_x, W3_y, linestyle='-.', color='b', linewidth=2, markersize=6, label='(4,1,0),D=3,M-W')

W4_x=[1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46
W4_y=[1,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1]
plt.plot(W4_x, W4_y, linestyle='-.', color='r', linewidth=2, markersize=6, label='(4,1,0,0),D=4,M-W')

# W5_x=[1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,
# W5_y=[1,1,0.99,1,0.97,0.99,0.63,0.88,0.63,0.91,0.38,0.87,0.09,0.82,0.06,0.77,0.03,0.67,0.03,0.79,0.01,0.66,0.02,0.6,0.01,0,0,0,0,0,0
# plt.plot(W5_x, W5_y, linestyle='-.', color='c', linewidth=2, markersize=6, label='(1,0,0,0,0),D=5,W')

# 여러 선 그리기
# plt.plot(x, y1, marker='o', linestyle='-', color='b', linewidth=2, markersize=6, label='Data 1')
# plt.plot(x, y2, marker='s', linestyle='--', color='r', linewidth=2, markersize=6, label='Data 2')
# plt.plot(x, y3, marker='^', linestyle='-.', color='g', linewidth=2, markersize=6, label='Data 3')


# # 라벨, 제목, 그리드
plt.xlabel("N")
plt.ylabel("Accuracy")
plt.title("Multiple Lines Graph")
plt.grid(True, linestyle='--', alpha=0.5)

# 범례 표시
plt.legend()
plt.ylim(0, 1.05)  # y축 최소 0, 최대 1.1
# 저장 및 출력
plt.savefig("figure.svg", format="svg", bbox_inches='tight')
plt.plot()

```

[]



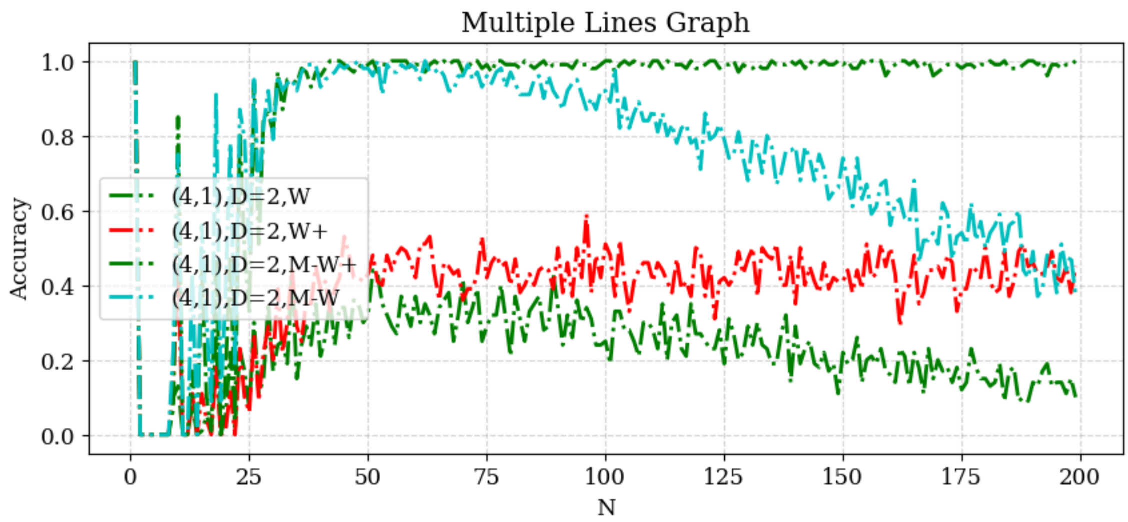

```
#only W+
import matplotlib.pyplot as plt



# 그래프 스타일
plt.figure(figsize=(10,4))  # 가로 폭 넓히기
plt.rcParams['font.size'] = 12
plt.rcParams['font.family'] = 'serif'

# 예시 데이터
W2_x=[1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46
W2_y=[1,0,0,0,0,0,0,0,0.07,0.85,0,0,0.17,0,0.45,0.1,0.01,0.47,0,0.16,0.48,0.04,0.8,0.49,0.33,0.94,0.51,0.85,0.86,0.81,0.97,0.87,0.95,0
plt.plot(W2_x, W2_y, linestyle='-.', color='g', linewidth=2, markersize=6, label='(4,1),D=2,M-W+')

# 예시 데이터
W3_x=[1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46
W3_y=[1,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,
plt.plot(W3_x, W3_y, linestyle='-.', color='b', linewidth=2, markersize=6, label='(4,1,0),D=3,M-W+')

W4_x=[1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46
W4_y=[1,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1]
plt.plot(W4_x, W4_y, linestyle='-.', color='r', linewidth=2, markersize=6, label='(4,1,0,0),D=4,M-W+')

# W5_x=[4,5,6,7,8]
# W5_y=[1,1,1,1,1]
# plt.plot(W5_x, W5_y, linestyle='-.', color='c', linewidth=2, markersize=6, label='(3,2,0,0,0),D=5,W+')

# 여러 선 그리기
# plt.plot(x, y1, marker='o', linestyle='-', color='b', linewidth=2, markersize=6, label='Data 1')
# plt.plot(x, y2, marker='s', linestyle='--', color='r', linewidth=2, markersize=6, label='Data 2')
# plt.plot(x, y3, marker='^', linestyle='-.', color='g', linewidth=2, markersize=6, label='Data 3')


# # 라벨, 제목, 그리드
plt.xlabel("N")
plt.ylabel("Accuracy")
plt.title("Multiple Lines Graph")
plt.grid(True, linestyle='--', alpha=0.5)

# 범례 표시
plt.legend()

# 저장 및 출력
plt.ylim(0, 1.05)  # y축 최소 0, 최대 1.1
plt.savefig("figure.svg", format="svg", bbox_inches='tight')
plt.plot()

```

[]




```
#only W
import matplotlib.pyplot as plt



# 그래프 스타일
plt.figure(figsize=(10,4))  # 가로 폭 넓히기
plt.rcParams['font.size'] = 12
plt.rcParams['font.family'] = 'serif'

# 예시 데이터
W2_x=[1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46
W2_y=[1,0,0,0,0,0,0,0,0,0.1,0.13,0,0,0.08,0,0.01,0.05,0.02,0.26,0,0.05,0.22,0.02,0.23,0.17,0.07,0.3,0.11,0.15,0.35,0.17,0.24,0.25,0.19,0
plt.plot(W2_x, W2_y, linestyle='-.', color='g', linewidth=2, markersize=6, label='(4,1),D=2,W')

# 예시 데이터
WW2_x=[1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,4
WW2_y=[1,0,0,0,0,0,0,0,0,0.14,0.46,0,0,0.11,0,0.11,0.04,0,0.18,0,0.01,0.12,0,0.23,0.1,0.06,0.27,0.09,0.22,0.29,0.2,0.39,0.22,0.3,0.44,0.
plt.plot(WW2_x, WW2_y, linestyle='-.', color='r', linewidth=2, markersize=6, label='(4,1),D=2,W+')

# 예시 데이터
W2_x=[1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46
W2_y=[1,0,0,0,0,0,0,0,0,0.07,0.85,0,0,0.17,0,0.45,0.1,0.01,0.47,0,0.16,0.48,0.04,0.8,0.49,0.33,0.94,0.51,0.85,0.86,0.81,0.97,0.87,0.95,0
plt.plot(W2_x, W2_y, linestyle='-.', color='g', linewidth=2, markersize=6, label='(4,1),D=2,M-W+')

# 예시 데이터
W2_x=[1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46
W2_y=[1,0,0,0,0,0,0,0,0,0.23,0.75,0,0,0.43,0,0.56,0.31,0.08,0.91,0.09,0.38,0.78,0.18,0.87,0.79,0.49,0.95,0.63,0.83,0.92,0.79,0.96,0.92,0
plt.plot(W2_x, W2_y, linestyle='-.', color='c', linewidth=2, markersize=6, label='(4,1),D=2,M-W')

# 여러 선 그리기
# plt.plot(x, y1, marker='o', linestyle='-', color='b', linewidth=2, markersize=6, label='Data 1')
# plt.plot(x, y2, marker='s', linestyle='--', color='r', linewidth=2, markersize=6, label='Data 2')
# plt.plot(x, y3, marker='^', linestyle='-.', color='g', linewidth=2, markersize=6, label='Data 3')


# # 라벨, 제목, 그리드
plt.xlabel("N")
plt.ylabel("Accuracy")
plt.title("Multiple Lines Graph")
plt.grid(True, linestyle='--', alpha=0.5)

# 범례 표시
plt.legend()

# 저장 및 출력
plt.savefig("figure.svg", format="svg", bbox_inches='tight')
plt.plot()

```

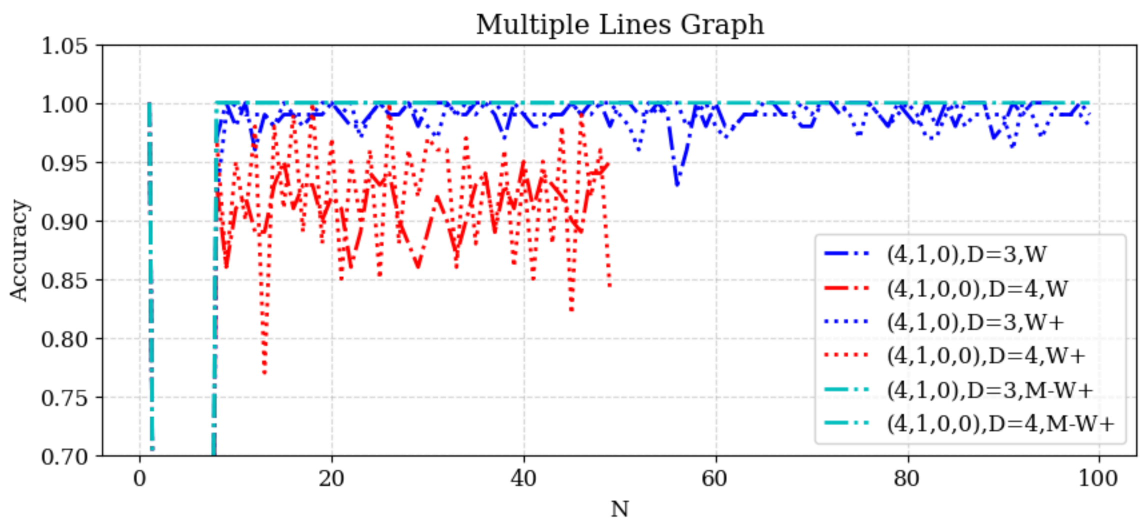
[]




```
#only W
import matplotlib.pyplot as plt



# 그래프 스타일
plt.figure(figsize=(10,4))  # 가로 폭 넓히기
plt.rcParams['font.size'] = 12
plt.rcParams['font.family'] = 'serif'


# 예시 데이터
W3_x=[1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46
W3_y=[1,0,0,0,0,0,0,0,0.97,1,0.98,1,0.96,0.99,0.98,0.99,0.99,0.98,0.99,0.99,1,0.99,0.98,0.98,0.99,1,0.99,0.99,1,0.98,1,1,1,0.99,0.99,1,1
plt.plot(W3_x, W3_y, linestyle='-.', color='b', linewidth=2, markersize=6, label='(4,1,0),D=3,W')

W4_x=[1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46
W4_y=[1,0,0,0,0,0,0,0,0.93,0.86,0.91,0.92,0.89,0.89,0.93,0.95,0.91,0.93,0.93,0.9,0.92,0.91,0.86,0.89,0.94,0.93,0.94,0.9,0.88,0.86,0.89,0
plt.plot(W4_x, W4_y, linestyle='-.', color='r', linewidth=2, markersize=6, label='(4,1,0,0),D=4,W')

# 예시 데이터
WW3_x=[1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,4
WW3_y=[1,0,0,0,0,0,0,0,0.92,0.99,1,0.99,0.99,0.99,0.98,1,0.99,0.99,0.99,1,1,0.99,1,0.97,0.99,1,0.99,0.99,1,0.99,0.98,0.97,1,0.99,1,0.99,
plt.plot(WW3_x, WW3_y, linestyle=':', color='b', linewidth=2, markersize=6, label='(4,1,0),D=3,W+')

WW4_x=[1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,4
WW4_y=[1,0,0,0,0,0,0,0,0.97,0.86,0.95,0.9,0.98,0.77,0.98,0.91,0.99,0.89,1,0.88,0.97,0.85,0.95,0.9,0.96,0.85,1,0.88,0.96,0.92,0.97,0.96,0
plt.plot(WW4_x, WW4_y, linestyle=':', color='r', linewidth=2, markersize=6, label='(4,1,0,0),D=4,W+')
# W5_x=[1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,
# W5_y=[1,1,0.99,1,0.97,0.99,0.63,0.88,0.63,0.91,0.38,0.87,0.09,0.82,0.06,0.77,0.03,0.67,0.03,0.79,0.01,0.66,0.02,0.6,0.01,0,0,0,0,0,0
# plt.plot(W5_x, W5_y, linestyle='-.', color='c', linewidth=2, markersize=6, label='(1,0,0,0,0),D=5,W')


# 예시 데이터
W3_x=[1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46
W3_y=[1,0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,
plt.plot(W3_x, W3_y, linestyle='-.', color='c', linewidth=2, markersize=6, label='(4,1,0),D=3,M-W+')

W4_x=[1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46
W4_y=[1,0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1]
plt.plot(W4_x, W4_y, linestyle='-.', color='c', linewidth=2, markersize=6, label='(4,1,0,0),D=4,M-W+')

# 여러 선 그리기
# plt.plot(x, y1, marker='o', linestyle='-', color='b', linewidth=2, markersize=6, label='Data 1')
# plt.plot(x, y2, marker='s', linestyle='--', color='r', linewidth=2, markersize=6, label='Data 2')
# plt.plot(x, y3, marker='^', linestyle='-.', color='g', linewidth=2, markersize=6, label='Data 3')


# # 라벨, 제목, 그리드
plt.xlabel("N")
plt.ylabel("Accuracy")
plt.title("Multiple Lines Graph")
plt.grid(True, linestyle='--', alpha=0.5)

# 범례 표시
plt.legend()
plt.ylim(0.7, 1.05)  # y축 최소 0, 최대 1.1
# 저장 및 출력
```

```
plt.savefig("figure.svg", format="svg", bbox_inches='tight')
plt.plot()

```

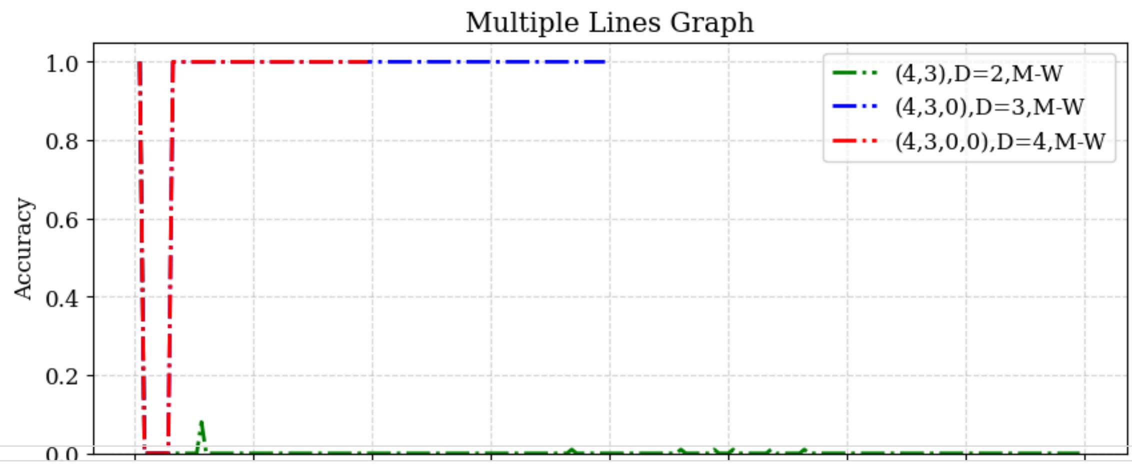
[]



(4,3)

```
#only W
import matplotlib.pyplot as plt



# 그래프 스타일
plt.figure(figsize=(10,4))  # 가로 폭 넓히기
plt.rcParams['font.size'] = 12
plt.rcParams['font.family'] = 'serif'

# 예시 데이터
W2_x=[1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46
W2_y=[1,0,0,0,0,0,0,0,0,0,0,0,0,0.08,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0
plt.plot(W2_x, W2_y, linestyle='-.', color='g', linewidth=2, markersize=6, label='(4,3),D=2,M-W')

# 예시 데이터
W3_x=[1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46
W3_y=[1,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,
plt.plot(W3_x, W3_y, linestyle='-.', color='b', linewidth=2, markersize=6, label='(4,3,0),D=3,M-W')

W4_x=[1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46
W4_y=[1,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1]
plt.plot(W4_x, W4_y, linestyle='-.', color='r', linewidth=2, markersize=6, label='(4,3,0,0),D=4,M-W')

# W5_x=[1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,
# W5_y=[1,1,0.99,1,0.97,0.99,0.63,0.88,0.63,0.91,0.38,0.87,0.09,0.82,0.06,0.77,0.03,0.67,0.03,0.79,0.01,0.66,0.02,0.6,0.01,0,0,0,0,0,0
# plt.plot(W5_x, W5_y, linestyle='-.', color='c', linewidth=2, markersize=6, label='(1,0,0,0,0),D=5,W')

# 여러 선 그리기
# plt.plot(x, y1, marker='o', linestyle='-', color='b', linewidth=2, markersize=6, label='Data 1')
# plt.plot(x, y2, marker='s', linestyle='--', color='r', linewidth=2, markersize=6, label='Data 2')
# plt.plot(x, y3, marker='^', linestyle='-.', color='g', linewidth=2, markersize=6, label='Data 3')


# # 라벨, 제목, 그리드
plt.xlabel("N")
plt.ylabel("Accuracy")
plt.title("Multiple Lines Graph")
plt.grid(True, linestyle='--', alpha=0.5)

# 범례 표시
plt.legend()
plt.ylim(0, 1.05)  # y축 최소 0, 최대 1.1
# 저장 및 출력
plt.savefig("figure.svg", format="svg", bbox_inches='tight')
plt.plot()

```

[ ]




```
#only W
import matplotlib.pyplot as plt



# 그래프 스타일
plt.figure(figsize=(10,4))  # 가로 폭 넓히기
plt.rcParams['font.size'] = 12
plt.rcParams['font.family'] = 'serif'


# 예시 데이터
W2_x=[1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46
W2_y=[1,0,0,0,0,0,0,0,0,0,0,0,0.08,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0
plt.plot(W2_x, W2_y, linestyle='-', color='g', linewidth=2, markersize=6, label='(4,3),D=2,M-W')

# 예시 데이터
W3_x=[1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46
W3_y=[1,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,
plt.plot(W3_x, W3_y, linestyle='-', color='b', linewidth=2, markersize=6, label='(4,3,0),D=3,M-W')

W4_x=[1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46
W4_y=[1,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1]
plt.plot(W4_x, W4_y, linestyle='-', color='r', linewidth=2, markersize=6, label='(4,3,0,0),D=4,M-W')

# 예시 데이터
W2_x=[1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46
W2_y=[1,0,0,0,0,0,0,0,0,0,0,0,0.07,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0
plt.plot(W2_x, W2_y, linestyle='-.', color='g', linewidth=2, markersize=6, label='(4,3),D=2,W')

# 예시 데이터
W3_x=[1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46
W3_y=[1,0,0,0,0,0,0,0.56,0.44,0.74,0.79,0.83,0.89,0.98,0.93,0.99,0.97,0.96,0.97,0.98,1,0.99,0.99,0.98,0.98,0.98,0.99,0.99,0.98,0.97,1,
plt.plot(W3_x, W3_y, linestyle='-.', color='b', linewidth=2, markersize=6, label='(4,3,0),D=3,W')

W4_x=[1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46
W4_y=[1,0,0,0,0,0,0,0.8,0.44,0.5,0.47,0.69,0.52,0.87,0.93,0.92,0.84,0.78,0.67,0.84,0.83,0.84,0.81,0.98,0.79,0.7,0.88,0.9,0.84,0.9,0.86
plt.plot(W4_x, W4_y, linestyle='-.', color='r', linewidth=2, markersize=6, label='(4,3,0,0),D=4,W')


# W5_x=[1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,
# W5_y=[1,1,0.99,1,0.97,0.99,0.63,0.88,0.63,0.91,0.38,0.87,0.09,0.82,0.06,0.77,0.03,0.67,0.03,0.79,0.01,0.66,0.02,0.6,0.01,0,0,0,0,0,0
# plt.plot(W5_x, W5_y, linestyle='-.', color='c', linewidth=2, markersize=6, label='(1,0,0,0,0),D=5,W')

# 여러 선 그리기
# plt.plot(x, y1, marker='o', linestyle='-', color='b', linewidth=2, markersize=6, label='Data 1')
# plt.plot(x, y2, marker='s', linestyle='--', color='r', linewidth=2, markersize=6, label='Data 2')
# plt.plot(x, y3, marker='^', linestyle='-.', color='g', linewidth=2, markersize=6, label='Data 3')


# # 라벨, 제목, 그리드
plt.xlabel("N")
plt.ylabel("Accuracy")
plt.title("Multiple Lines Graph")
plt.grid(True, linestyle='--', alpha=0.5)

# 범례 표시
plt.legend()
plt.ylim(0, 1.05)  # y축 최소 0, 최대 1.1
# 저장 및 출력
```