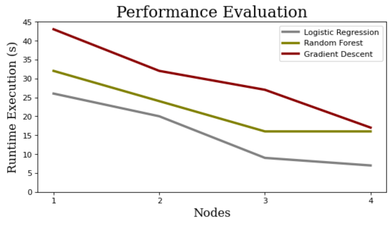
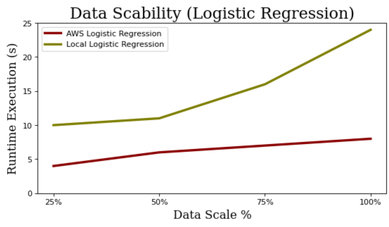
In [125…

```
# libraries
import matplotlib.pyplot as plt
import numpy as np
import pandas as pd
from matplotlib.pyplot import figure


figure(figsize=(8, 4), dpi=80)

# Data
df=pd.DataFrame({'x_values': range(1,5), 'y1_values': [26,20,9,7], 'y2_values': [32,24,16,16], 'y3_values': [43,32,27,17] })

# multiple line plots
plt.plot( 'x_values', 'y1_values', data=df, marker='', markerfacecolor='grey', markersize=12, color='grey', linewidth=3, label="Logistic Regression
plt.plot( 'x_values', 'y2_values', data=df, marker='', color='olive', linewidth=3,label="Random Forest")
plt.plot( 'x_values', 'y3_values', data=df, marker='', color='darkred', linewidth=3, label="Gradient Descent")

# show legend
plt.legend()
font2 = {'family':'serif','color':'black','size':20}
font1 = {'family':'serif','color':'black','size':15}

plt.xlabel("Nodes",fontdict = font1)
plt.ylabel("Runtime Execution (s)",fontdict = font1)
plt.title("Performance Evaluation",fontdict = font2)
plt.xticks(np.arange(1, 5, 1.0))
plt.yticks(np.arange(0, 50, 5))

# show graph
plt.show()
```



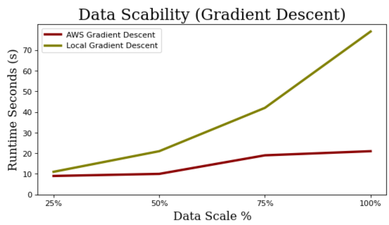
In [131…

```
# libraries
import matplotlib.pyplot as plt
import numpy as np
import pandas as pd
from matplotlib.pyplot import figure


figure(figsize=(8, 4), dpi=80)

# Data
df=pd.DataFrame({'x_values': range(1,5), 'y1_values': [4,6,7,8], 'y2_values': [10,11,16,24] })

# multiple line plots
plt.plot( 'x_values', 'y1_values', data=df, marker='', markerfacecolor='red', markersize=12, color='darkred', linewidth=3, label="AWS Logistic Regr
plt.plot( 'x_values', 'y2_values', data=df, marker='', color='olive', linewidth=3,label="Local Logistic Regression")
# plt.plot( 'x_values', 'y3_values', data=df, marker='', color='red', linewidth=2, label="Gradient Descent")

# show legend
plt.legend()
font2 = {'family':'serif','color':'black','size':20}
font1 = {'family':'serif','color':'black','size':15}

plt.xlabel("Data Scale %",fontdict = font1)
plt.ylabel("Runtime Execution (s)",fontdict = font1)
plt.title("Data Scability (Logistic Regression)",fontdict = font2)
# plt.xticks(np.arange(1, 5))
plt.yticks(np.arange(0, 30, 5))

labels = ['25%', '50%', '75%','100%']
plt.xticks(np.arange(1, 5),labels)

# show graph
plt.show()
```



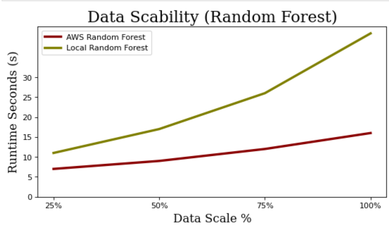
In [132…

```
# libraries
import matplotlib.pyplot as plt
import numpy as np
import pandas as pd
from matplotlib.pyplot import figure


figure(figsize=(8, 4), dpi=80)

# Data
df=pd.DataFrame({'x_values': range(1,5), 'y1_values': [9,10,19,21], 'y2_values': [11,21,42,79] })

# multiple line plots
plt.plot( 'x_values', 'y1_values', data=df, marker='', markerfacecolor='red', markersize=12, color='darkred', linewidth=3, label="AWS Gradient Desc
plt.plot( 'x_values', 'y2_values', data=df, marker='', color='Olive', linewidth=3,label="Local Gradient Descent")
# plt.plot( 'x_values', 'y3_values', data=df, marker='', color='red', linewidth=2, label="Gradient Descent")

# show legend
plt.legend()
font2 = {'family':'serif','color':'black','size':20}
font1 = {'family':'serif','color':'black','size':15}

plt.xlabel("Data Scale %",fontdict = font1)
plt.ylabel("Runtime Seconds (s)",fontdict = font1)
plt.title("Data Scability (Gradient Descent)",fontdict = font2)
# plt.xticks(np.arange(1, 5))
plt.yticks(np.arange(0, 80, 10))

labels = ['25%', '50%', '75%','100%']
plt.xticks(np.arange(1, 5),labels)

# show graph
plt.show()
```



In [133…

```
# libraries
import matplotlib.pyplot as plt
import numpy as np
import pandas as pd
from matplotlib.pyplot import figure


figure(figsize=(8, 4), dpi=80)

# Data
df=pd.DataFrame({'x_values': range(1,5), 'y1_values': [7,9,12,16], 'y2_values': [11,17,26,41] })

# multiple line plots
plt.plot( 'x_values', 'y1_values', data=df, marker='', markerfacecolor='red', markersize=12, color='darkred', linewidth=3, label="AWS Random Forest
plt.plot( 'x_values', 'y2_values', data=df, marker='', color='Olive', linewidth=3,label="Local Random Forest")
# plt.plot( 'x_values', 'y3_values', data=df, marker='', color='red', linewidth=2, label="Gradient Descent")

# show legend
plt.legend()
font2 = {'family':'serif','color':'black','size':20}
font1 = {'family':'serif','color':'black','size':15}

plt.xlabel("Data Scale %",fontdict = font1)
plt.ylabel("Runtime Seconds (s)",fontdict = font1)
plt.title("Data Scability (Random Forest)",fontdict = font2)
# plt.xticks(np.arange(1, 5))
plt.yticks(np.arange(0, 35, 5))

labels = ['25%', '50%', '75%','100%']
plt.xticks(np.arange(1, 5),labels)

# show graph
plt.show()
```



In [ ]: