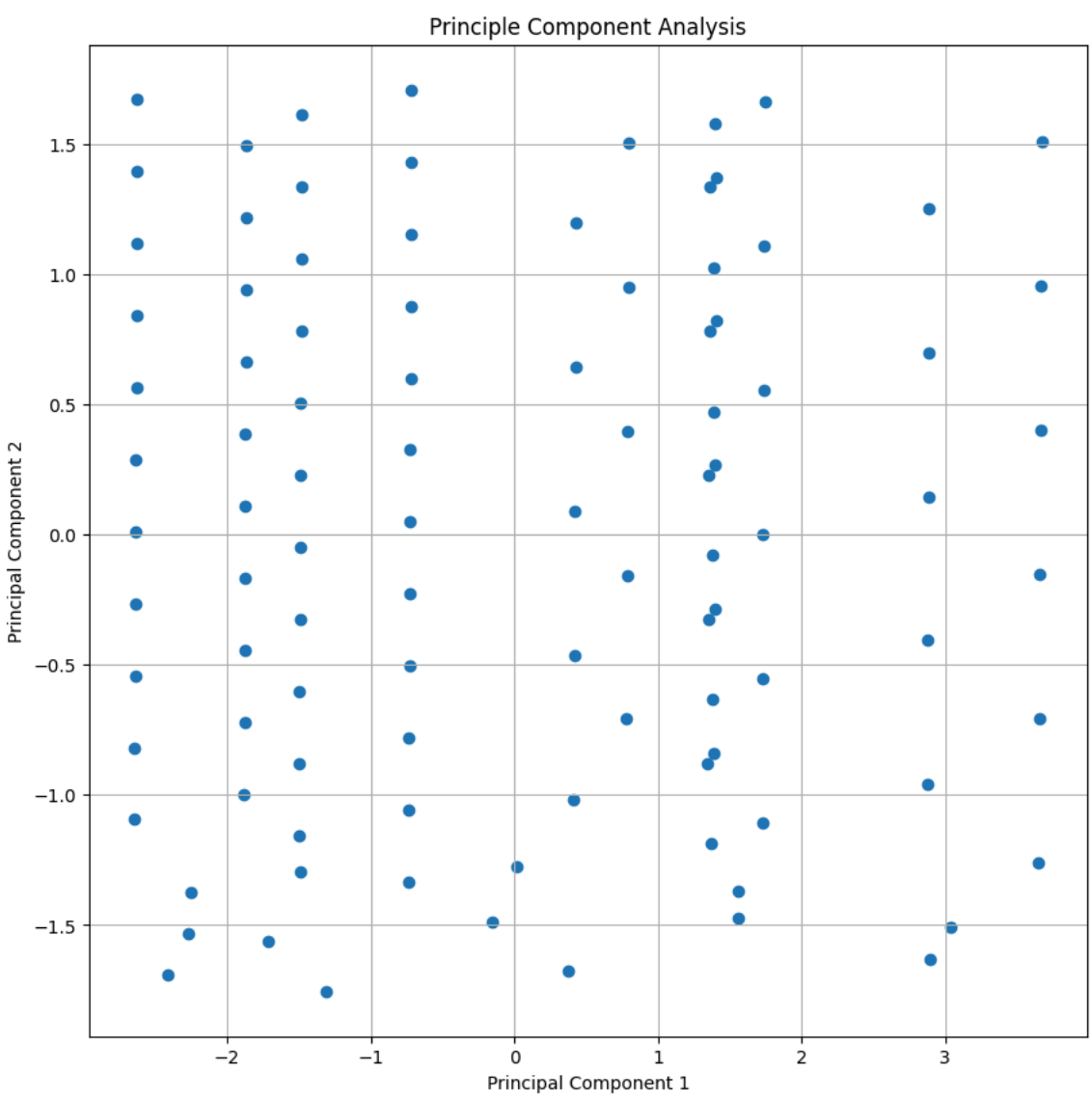
```
import pandas as pd
import matplotlib.pyplot as plt
from sklearn.decomposition import PCA
from sklearn.preprocessing import StandardScaler
data=pd.read_csv("/content/employee_performance.csv")

scaler=StandardScaler()
data_scaled=scaler.fit_transform(data)

PCA=PCA(n_components=2)
principle_components=PCA.fit_transform(data_scaled)

df=pd.DataFrame(data=principle_components,columns=['PC1','PC2'])

plt.figure(figsize=(10,10))
plt.scatter(df['PC1'],df['PC2'])
plt.xlabel('Principal Component 1')
plt.ylabel('Principal Component 2')
plt.title('Principle Component Analysis')
plt.grid()
plt.show()
```




```
import pandas as pd
import matplotlib.pyplot as plt
from sklearn.decomposition import PCA
from sklearn.preprocessing import StandardScaler
import numpy as np

data = pd.read_csv("/content/employee_performance.csv")

# Generate a random 'Job Role' column for demonstration
np.random.seed(42)
job_roles = ['Manager', 'Engineer', 'Analyst', 'HR', 'Sales']
data['Job Role'] = np.random.choice(job_roles, size=len(data))
```

```
# Standardize the data (excluding the non-numeric 'Job Role' column)
data_numeric = data.select_dtypes(include=[np.number])
scaler = StandardScaler()
data_scaled = scaler.fit_transform(data_numeric)

# Perform PCA
pca = PCA(n_components=2)
principal_components = pca.fit_transform(data_scaled)

df = pd.DataFrame(data=principal_components, columns=['PC1', 'PC2'])
df['Job Role'] = data['Job Role']  # Add Job Role back

# Scatter plot
plt.figure(figsize=(10, 10))
colors = {'Manager': 'red', 'Engineer': 'blue', 'Analyst': 'green', 'HR': 'purple', 'Sales': 'orange'}
for role in df['Job Role'].unique():
    subset = df[df['Job Role'] == role]
    plt.scatter(subset['PC1'], subset['PC2'], label=role, alpha=0.7, color=colors[role])

plt.xlabel('Principal Component 1')
plt.ylabel('Principal Component 2')
plt.title('Performance PCA by Job Role')
plt.legend()
plt.grid()
plt.show()
```