```python
In [17]:   import pandas as pd
           import matplotlib.pyplot as plt
```

```python
In [21]:   pure = pd.read_csv("../reports/logistic_regression.csv")
           pca = pd.read_csv("../reports/pca_then_lr.csv")
```

```python
In [28]:   pure.head()
           pca.head()
```

Out[28]:

|	Iteration	F1 Score	Accuracy	Precision	Recall
0	20	0.628099	0.653846	0.622951	0.633333
1	21	0.617886	0.656934	0.622951	0.612903
2	22	0.603175	0.650350	0.603175	0.603175
3	23	0.610687	0.660000	0.615385	0.606061
4	24	0.618705	0.660256	0.605634	0.632353

```python
In [25]:   plt.style.use('dark_background')
           plt.figure(figsize=(10, 6))
           plt.plot(pure['Iteration'], pure['F1 Score'], label='Pure')
           plt.plot(pca['Iteration'], pca['F1 Score'], label='PCA')

           plt.xlabel('Test Size (%)')
           plt.ylabel('value')
           plt.title('F1 Score comparison between PCA or not')
           plt.legend()
           plt.grid(True)
           plt.show()
```

F1 Score comparison between PCA or not
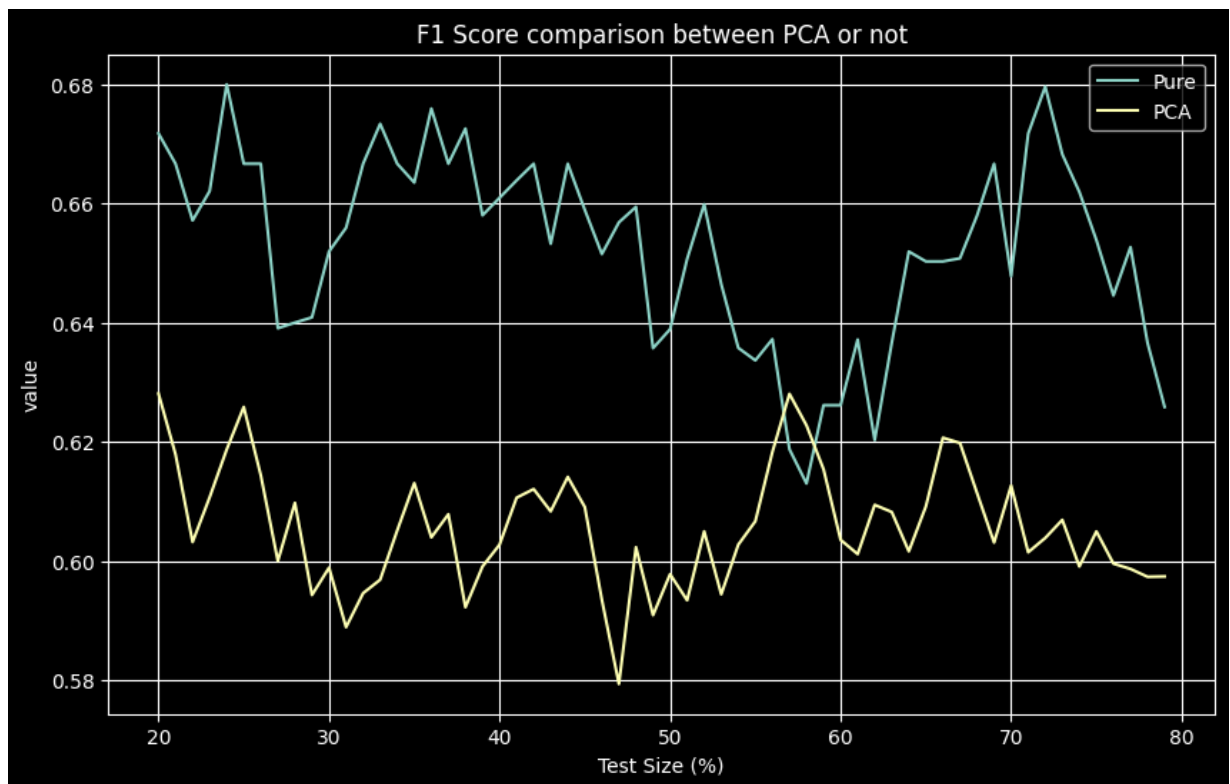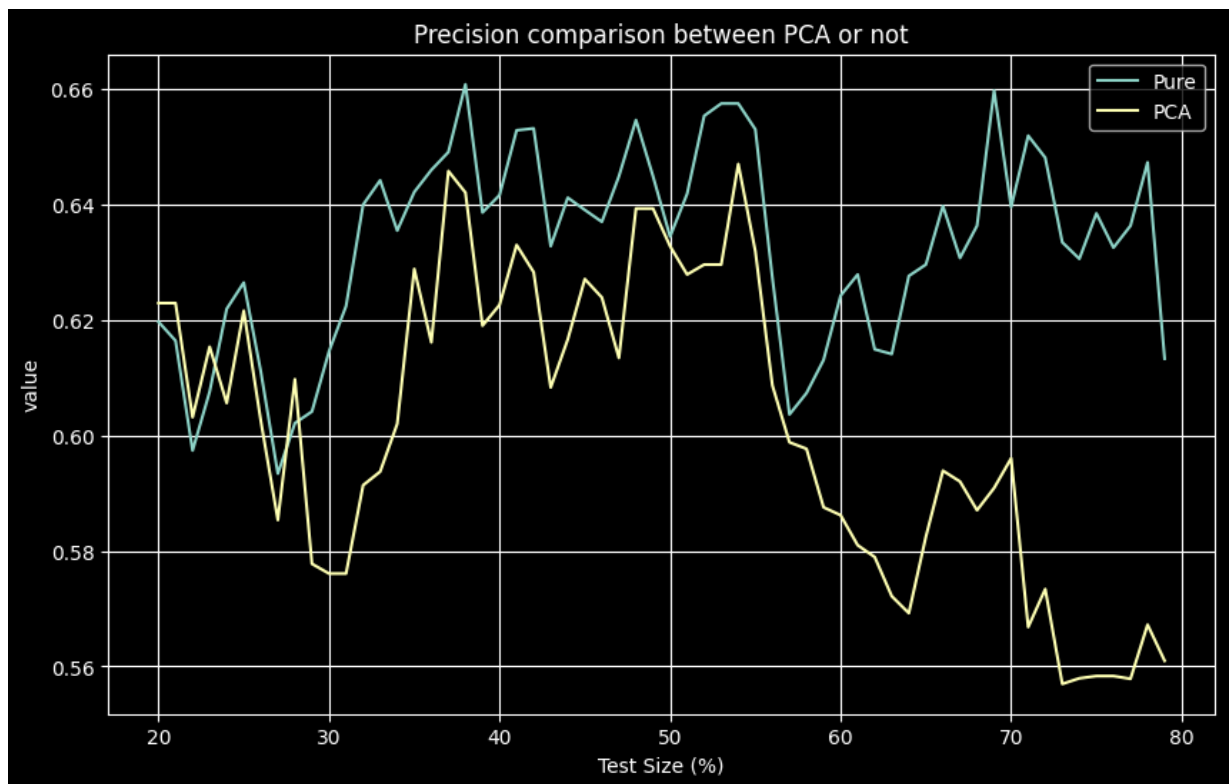
```
In [24]: plt.style.use('dark_background')
         plt.figure(figsize=(10, 6))
         plt.plot(pure['Iteration'], pure["Accuracy"], label='Pure', )
         plt.plot(pca['Iteration'], pca['Accuracy'], label='PCA')

         plt.xlabel('Test Size (%)')
         plt.ylabel('value')
         plt.title('Accuracy comparison between PCA or not')
         plt.legend()
         plt.grid(True)
         plt.show()
```

Accuracy comparison between PCA or not
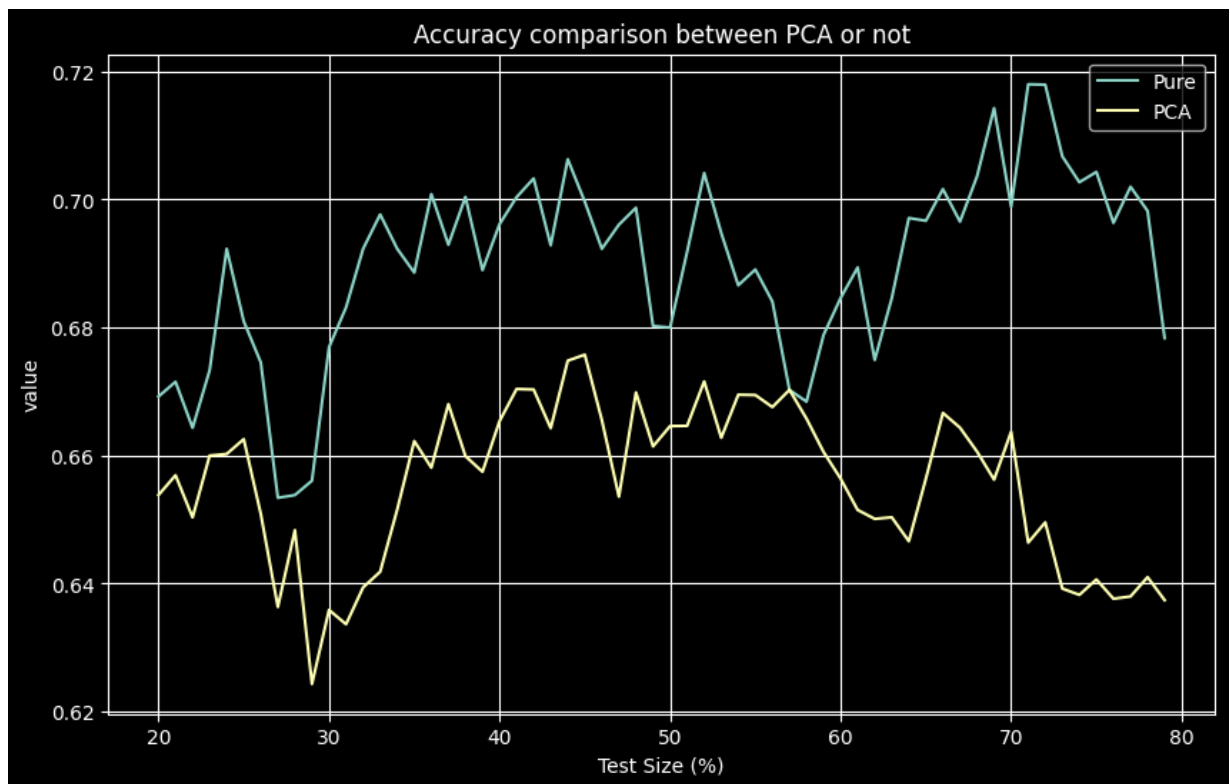
```
In [26]:  plt.style.use('dark_background')
          plt.figure(figsize=(10, 6))
          plt.plot(pure['Iteration'], pure["Precision"], label='Pure', )
          plt.plot(pca['Iteration'], pca['Precision'], label='PCA')

          plt.xlabel('Test Size (%)')
          plt.ylabel('value')
          plt.title('Precision comparison between PCA or not')
          plt.legend()
          plt.grid(True)
          plt.show()
```

Precision comparison between PCA or not

```python
plt.style.use('dark_background')
plt.figure(figsize=(10, 6))
plt.plot(pure['Iteration'], pure["Recall"], label='Pure', )
plt.plot(pca['Iteration'], pca['Recall'], label='PCA')

plt.xlabel('Test Size (%)')
plt.ylabel('value')
plt.title('Recall comparison between PCA or not')
plt.legend()
plt.grid(True)
plt.show()
```

Recall comparison between PCA or not