**Day-11 Morning Assessment**

**Pandas**

1. import pandas as pd

df = pd.read\_csv('filename.csv')  # Replace with your file path  
print(df.head(10))  
  
2.print(df.shape)  # Returns (rows, columns)  
  
3. filtered\_df = df[df['age'] > 25]  
print(filtered\_df)  
  
4. df['salary'].fillna(df['salary'].mean(), inplace=True)  
  
5. df.rename(columns={'emp\_id': 'employee\_id'}, inplace=True)  
  
6. df.drop\_duplicates(inplace=True)  
  
7. df['date'] = pd.to\_datetime(df['date'])     
  
8. total\_salary = df.groupby('department')['salary'].sum()  
print(total\_salary)  
  
9. df.sort\_values(by='date', ascending=False, inplace=True)  
  
10. df['total\_marks'] = df['math'] + df['science'] + df['english']  
  
11. filtered = df[df['score'].between(40, 80)]  
print(filtered)  
  
12. top\_sales = df.nlargest(3, 'sales')  
print(top\_sales)  
  
13. print(df['price'].agg(['mean', 'min', 'max']))  
  
14. df.set\_index('date', inplace=True)  
  
15. df['gender'] = df['gender'].map({'M': 1, 'F': 0})

**NumPy**

16. import numpy as np  
arr = np.arange(10)  
print(arr)  
  
17. arr = np.random.randint(1, 101, size=(3, 3))  
print(arr)  
  
18. arr = np.array([10, 20, 30])  
mean = np.mean(arr)  
std = np.std(arr)  
print("Mean:", mean)  
print("Standard Deviation:", std)  
  
19. arr = np.array([20, 55, 70, 40])  
arr[arr > 50] = 50  
print(arr)  
  
20. arr = np.arange(12)  
reshaped = arr.reshape(3, 4)  
print(reshaped)  
  
21. arr = np.array([1, 2, 3, 4, 6, 9, 10])  
even\_count = np.sum(arr % 2 == 0)  
print("Even numbers:", even\_count)  
  
22. arr = np.array([[1, 2], [3, 4]])  
flattened = arr.flatten()  
print(flattened)  
  
23. arr = np.random.rand(10)  
print(arr)  
  
24. a = np.array([1, 2, 3])  
b = np.array([4, 5, 6])  
result = a \* b  
print(result)  
  
25. arr = np.array([10, 50, 30, 90, 40])  
max\_index = np.argmax(arr)  
print("Index of max value:", max\_index)