PANDAS

1. What is the function to create a DataFrame in pandas?

data = {

    'Employee\_ID': [101, 102, 103, 104, 105],

    'Name': ['John', 'Emily', 'Michael', 'Sarah', 'David'],

    'Department': ['HR', 'Finance', 'IT', 'Marketing', 'Sales'],

    'Salary': [60000, 70000, 80000, 75000, 65000],

    'Age': [35, 28, 42, 30, 38]

}

df = pd.DataFrame(data)

df

2. How can you display the first 5 rows of a DataFrame?

df.head()

3. How do you check the dimensions of a DataFrame?

df.shape

4. What method is used to check for missing values in a DataFrame?

df.isnull().sum()

5. How do you select a single column from a DataFrame?

single\_columns = df['Salary']

single\_columns

6. How do you rename a specific column in a DataFrame?

df.rename(columns={'Name':"Employee name"},inplace=True)

df

7. What method is used to drop rows with missing values in a DataFrame?

1, clear = df.dropna()

clear

2, df.dropna(subset=['Age', 'Salary'])

df

8. How can you filter rows in a DataFrame based on a condition?

print(df.head(3))

print(df.tail(3))

9. What function can be used to apply a function to each element of a DataFrame column?

data = {

    'Name': ['Alice', 'Bob', 'Charlie', 'David', 'Eva', 'Frank'],

    'Age': [25, 30, 35, 40, 45, 50]

}

df = pd.DataFrame(data)

def square\_age(x):

    return x+2

df['Age\_add'] = df['Age'].apply(square\_age)

print(df)

10. How do you sort a DataFrame by values in a specific column?

df.sort\_values(by='Salary',ascending=True)

df

11. What method can you use to create a new column based on existing columns in a DataFrame?

df['Name1'] = df['Name'].str.upper()

df

12. How can you save a DataFrame to a CSV file?

df.to\_csv('file.csv', index= False)

read = pd.read\_csv(r"C:\Users\admin\Documents\python\Pandas\file.csv")

read

13. How do you calculate the mean salary of employees in the DataFrame?

print(df['Salary'].mean())

14. How can you find the oldest employee in the DataFrame?

1, df[df['Age']>=42]

2, df.nlargest(2,'Age')

15. How do you count the number of employees in each department?

employee\_count = df.groupby('Department')['Employee name'].count()

print(employee\_count)

16. How can you find the employee with the highest salary?

max\_salary = df['Salary'].max()

highest\_paid\_employee = df[df['Salary'] == max\_salary]

print(highest\_paid\_employee)

17. What is the median age of employees?

median\_age = df['Age'].median()

median\_age\_employee = df[df['Age']==median\_age]

print(median\_age\_employee)

18.What is the maximum salary in the Sales department?

df.groupby('Department')['Salary'].max()

19.How do you reset the index of the DataFrame?

df\_reset =df.reset\_index(drop=True, inplace=False)

print(df\_reset)