MIDTERM
SAMPLE QUESTIONS

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Based on the Python or SQL statement with Table of 'Employees' and DataFrame of 'data', encircle the correct answer.

FirstName	LastName	Gender	BirthDate	Department	Position	Salary
John	Smith	Male	3/15/1985	IT	Software Engineer	75000
Christopher	Lee	Male	09/03/1987	IT	System Administrator	78000
Michael	Davis	Male	11/10/1988	Finance	Financial Analyst	80000
Megan	Clark	Female	12/07/1989	IT	Database Analyst	76000
Sarah	Johnson	Female	7/22/1990	HR	HR Manager	90000
Ashley	Martinez	Female	8/14/1991	Marketing	Content Writer	76000
Brian	Miller	Male	4/25/1993	Finance	Senior Accountant	88000
Emily	Wilson	Female	05/05/1995	Marketing	Marketing Specialist	82000

1. SELECT SUM(Salary) FROM Employees GROUP BY Department Having Department = 'IT'	
A. 292000	C. 229000
B. 226000	D. 227000

FirstName	LastName	Gender	BirthDate	Department	Position	Salary
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2. SELECT COUNT(FirstName) FROM Employees WHERE FirstName LIKE 'm%'	
A. 0	C. 2
B. 1	D. error

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3. SELECT Salary FROM Employees WHERE (Department = 'IT' OR Department = 'Finance') AND Salary >= 82000	
A. 88000	C. 90000
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5. data[data['Department'] == 'HR'].groupby('Department').sum()	
A. 90000	C. 168000
B. 158000	D. error

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6. data['Department'].value_counts().tail(1)	
A. 0	C. 3
B. 2	D. 1

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7. data['Salary'].nunique()	
A. 3	C. 5
B. 2	D. 7

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8. data[data['Department'] == 'IT']['Salary'].max()	
A. 78000	C. 76000
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9. data[data['Position'].str.contains('Analyst')]['Salary'].sum()	
A. 156000	C. 158000
B. 155000	D. 154000

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10. data[(data['Position'].str.contains('Analyst')) & (sample['Department'] == 'IT')]['Salary']	
A. error	C. 88000
B. 76000	D. 82000

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11. What does the Pandas GroupBy object in Python allow you to do?	
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13. Which of the following LIKE statements would match values with all occurrences of “AD”?	
A. LIKE ‘%AD’	C. LIKE ‘AD%’
B. LIKE ‘AD_%’	D. LIKE ‘%AD%’

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14. IN SQL, GROUP BY Statement, what is the purpose of the HAVING Clause?	
A. To specify the order of grouped rows	C. To filter rows based on conditions
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15. How do you sort a DataFrame in descending order using sort_values()?	
A. order = ‘desc’	C. ascending = False
B. descending = True	D. order = ‘descending’

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A. Wrangling	C. Analysis
B. Visualization	D. Handling

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17. By default, plot() function visualized a ____	
A. Bar graph	C. Histogram
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18. To import pyplot module we can write ____	
A. import mathplotlib.pyplot as plt	C. import mathplotlib.phyplot as plt
B. import matplotlib.pyplot as plt	D. import pyplot as plt

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19. Which of the following is NOT a method to create a chart using pyplot?	
A. pie()	C. histogram()
B. plot()	D. bar()

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20. A plot which provides multiple statistical summary (range, outlier, etc	
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21. Which of the following is not a parameter of plot() method?	
A. color	C. linestyle
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22. Which is best suitable to show correlation (relationships) between two unique data?	
A. scatter	C. pie
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23. To simply compare data in general, we can use a ____ chart	
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24. In a box plot, what does the box represents?	
A. The entire range of data	C. The mean & standard deviation of the data
B. The middle 50% of the data	D. The highest and lowest data points

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25. In histogram, which parameter decides the intervals or the number of data points/distribution points?	
A. kind	C. bins
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A. figuresize	C. figsize
B. figsizes	D. figuresizes

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28. What happens if the loc parameter is not specified in plt.legend() assuming there is a label	
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29. What is the main purpose of using fig.add_axes() in matplotlib?	
A. To create multiple plots in separate windows	C. To automatically arrange subplots with equal spacing
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30. What is the primary purpose of using KDE (Kernel Density Estimation) alongside a histogram?	
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Good Luck!