**1. What keyword is used to define a function in Python?**  
A) func  
B) define  
C) def   
D) function

**2. What is a key difference between a list and a dictionary in Python?**  
A) Lists are immutable, dictionaries are not  
B) Lists use indices, dictionaries use keys   
C) Dictionaries are ordered, lists are not  
D) Lists store data in key-value pairs

**3. What is the primary purpose of the pandas library?**  
A) Machine learning  
B) Web development  
C) Data manipulation and analysis   
D) File compression

**4. Which of the following is used to import a CSV file using pandas?**  
A) pandas.read\_csvfile()  
B) pd.load\_csv()  
C) import\_csv()  
D) pd.read\_csv()

**5. Which two methods are commonly used to handle missing values in pandas?**  
A) dropna() and fillna()   
B) null() and empty()  
C) remove() and replace()  
D) clear() and substitute()

**6. What does data merging typically involve in pandas?**  
A) Combining rows from identical tables  
B) Updating variable names  
C) Joining datasets using keys   
D) Copying values from one column to another

**7. Which of the following is a potential issue with merging datasets from different sources?**  
A) Data visualization limitations  
B) Key mismatches or inconsistent formats   
C) Poorly written comments  
D) Excessive line spacing

**8. How can you remove duplicate rows in pandas?**  
A) df.remove\_duplicates()  
B) df.drop\_duplicates()   
C) df.clear\_duplicates()  
D) df.delete\_duplicates()

**9. When is a binary search algorithm most efficient?**  
A) When data is randomly ordered  
B) When data is in descending order  
C) When data is sorted   
D) When working with strings only

**10. What is the key difference between linear and binary search?**  
A) Linear search only works on strings  
B) Binary search requires sorted data   
C) Binary search checks every element  
D) Linear search is faster for large datasets

**11. What is the purpose of debugging tools in programming?**  
A) To compile the code  
B) To enhance visual design  
C) To identify and fix errors in code   
D) To manage software licenses

**12. Why is documentation important in programming?**  
A) It increases execution speed  
B) It improves data privacy  
C) It helps others understand and maintain the code   
D) It creates user interfaces

**13. What does Python’s unittest framework allow you to do?**  
A) Create animations  
B) Build GUIs  
C) Write and run tests for code functionality   
D) Encrypt user data

**14. How do test cases improve code quality?**  
A) By speeding up execution  
B) By ensuring functionality and detecting bugs early   
C) By making code more stylish  
D) By shortening file names

**15. What is data masking used for?**  
A) To increase file size  
B) To obscure sensitive information   
C) To duplicate datasets  
D) To sort data alphabetically

**16. Why is data privacy important in data analysis?**  
A) To improve performance  
B) To protect individuals' sensitive information   
C) To create backups  
D) To reduce code complexity

**17. Which of the following is a common security practice when handling data in Python?**  
A) Avoid using comments  
B) Encrypt sensitive data   
C) Save passwords in plain text  
D) Use global variables only

**18. What is an outlier in a dataset?**  
A) A missing value  
B) A duplicated entry  
C) A data point significantly different from others   
D) A data point with text only

**19. How does internal documentation help maintain code?**  
A) By reducing program size  
B) By explaining code logic and purpose   
C) By removing bugs  
D) By speeding up function calls

**20. What is the purpose of a try-except block in Python?**  
A) To test functions  
B) To handle runtime errors gracefully   
C) To comment out code  
D) To loop through datasets