# IT 21- Python Programming

**1. What is Python?**

A. A snake species

B. A programming language

C. A type of graph

D. A mathematical operation

**Answer: B. A programming language**

**2. Which of the following best describes the role of Python in AI and Data Science?**

A. It's not used in AI or Data Science.

B. It's used for web development only.

C. It's used for creating desktop applications.

D. It's extensively used for AI and Data Science projects.

**Answer: D. It's extensively used for AI and Data Science projects.**

**3. Which of the following is the default graphical development environment for Python?**

A. VSCode

B. PyCharm

C. IDLE

D. Spyder

**Answer: C. IDLE**

**4. Which of the following is not a Python object type?**

A. Number

B. Dictionary

C. Vector

D. String

**Answer: C. Vector**

**5. Which of the following is used to create a user-defined class in Python?**

A. Class

B. Define

C. Struct

D. Object

**Answer: A. Class**

**6. What is the purpose of the 'if' statement in Python?**

A. To define a loop

B. To define a function

C. To make a decision

D. To import a module

**Answer: C. To make a decision**

**7. What is the keyword used to define a function in Python?**

A. func

B. define

C. def

D. function

**Answer: C. def**

**8. Which of the following is true about decorators in Python?**

A. They are used to add functionality to functions.

B. They are used to remove functionality from functions.

C. They are used to define classes.

D. They are used to define modules.

**Answer: A. They are used to add functionality to functions.**

**9. What is the purpose of a lambda function in Python?**

A. To define anonymous functions

B. To create classes

C. To import modules

D. To iterate over a list

**Answer: A. To define anonymous functions**

**10. What is the primary use of regular expressions in Python?**

A. Mathematical calculations

B. Pattern matching and searching

C. File handling

D. Graphics rendering

**Answer: B. Pattern matching and searching**

**11. Which of the following is NOT a part of exception handling in Python?**

A. try

B. catch

C. finally

D. except

**Answer: B. catch**

**12. What is the purpose of multithreading in Python?**

A. To handle multiple exceptions simultaneously

B. To execute multiple threads in parallel

C. To synchronize file operations

D. To perform pattern matching

**Answer: B. To execute multiple threads in parallel**

**13. Which function is used to read a file line by line in Python?**

A. read()

B. readlines()

C. readline()

D. readfile()

**Answer: C. readline**

**14. What is the primary use of NoSQL databases?**

A. Storing structured data only

B. Storing data in a tabular format

C. Storing unstructured data

D. Storing data in a relational manner

**Answer: C. Storing unstructured data**

**15.What is the purpose of NumPy in Python?**

A. For numerical computing

B. For web development

C. For GUI programming

D. For file handling

**Answer: A. For numerical computing**

**16. Which of the following is NOT a component of Pandas?**

A. Series

B. DataFrame

C. Index objects

D. Transposition

**Answer: D. Transposition**

**17. Which library is used for data visualization in Python?**

A. NumPy

B. Pandas

C. Matplotlib

D. Scikit-learn

**Answer: C. Matplotlib**

**18. What is the purpose of Index Hierarchy in Pandas?**

A. To organize data in a hierarchical manner

B. To sort data alphabetically

C. To align data from different sources

D. To calculate summary statistics

**Answer: A. To organize data in a hierarchical manner**

**19. What is the purpose of Text Analytics with NLP in Python?**

A. To analyze images

B. To analyze text data

C. To analyze audio data

D. To analyze video data

**Answer: B. To analyze text data**

**20. Which of the following is NOT a part of Python's syntax?**

A. Variable names are case-sensitive.

B. Indentation is used to define code blocks.

C. Statements are terminated by a semicolon.

D. Comments can be added using the '#' symbol.

**Answer: C. Statements are terminated by a semicolon.**

**21. What is the main role of Python in AI and Data Science?**

A. It provides a platform for web development.

B. It offers tools for creating mobile applications.

C. It is widely used for data analysis and machine learning.

D. It is mainly used for system administration tasks.

**Answer: C. It is widely used for data analysis and machine learning.**

**22. Which of the following is NOT a valid Python data type?**

A. List

B. Set

C. Vector

D. Tuple

**Answer: C. Vector**

**23. What is the purpose of the 'else' statement in Python?**

A. To define an alternate condition

B. To define a loop

C. To handle exceptions

D. To define a function

**Answer: A. To define an alternate condition**

**24. Which keyword is used to define a function in Python?**

A. function

B. define

C. func

D. def

**Answer: D. def**

**25. What are decorators used for in Python?**

A. To remove functionality from functions

B. To define classes

C. To add functionality to functions

D. To import modules

**Answer: C. To add functionality to functions**

**26. What is the purpose of a lambda function in Python?**

A. To define anonymous functions

B. To create classes

C. To import modules

D. To iterate over a list

**Answer: A. To define anonymous functions**

**27. What is the primary purpose of regular expressions in Python?**

A. Mathematical calculations

B. Pattern matching and searching

C. File handling

D. Graphics rendering

**Answer: B. Pattern matching and searching**

## 28. Which of the following is NOT a part of exception handling in Python?

A. try

B. catch

C. finally

D. except

**Answer: B. catch**

## 29. What is the primary use of multithreading in Python?

A. To handle multiple exceptions simultaneously

B. To execute multiple threads in parallel

C. To synchronize file operations

D. To perform pattern matching

**Answer: B. To execute multiple threads in parallel**

## 30. Which function is used to read a file line by line in Python?

A. read()

B. readlines()

C. readline()

D. readfile()

**Answer: C. readline()**

## 31. What is the primary use of NoSQL databases?

A. Storing structured data only

B. Storing data in a tabular format

C. Storing unstructured data

D. Storing data in a relational manner

**Answer: C. Storing unstructured data**

**32. What is the purpose of NumPy in Python?**

A. For numerical computing

B. For web development

C. For GUI programming

D. For file handling

**Answer: A. For numerical computing**

**33. Which of the following is NOT a component of Pandas?**

A. Series

B. DataFrame

C. Index objects

D. Transposition

**Answer: D. Transposition**

**34. Which library is used for data visualization in Python?**

A. NumPy

B. Pandas

C. Matplotlib

D. Scikit-learn

**Answer: C. Matplotlib**

**35. What is the purpose of Index Hierarchy in Pandas?**

A. To organize data in a hierarchical manner

B. To sort data alphabetically

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D. To calculate summary statistics

**Answer: A. To organize data in a hierarchical manner**

**36. What is the purpose of Text Analytics with NLP in Python?**

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B. To analyze text data

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**Answer: C. Statements are terminated by a semicolon.**

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A. It provides a platform for web development.

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C. It is widely used for data analysis and machine learning.

D. It is mainly used for system administration tasks.

**Answer: C. It is widely used for data analysis and machine learning.**

**39. Which of the following is NOT a valid Python data type?**

A. List

B. Set

C. Vector

D. Tuple

**Answer: C. Vector**

**40 What is the purpose of the 'else' statement in Python?**

A. To define an alternate condition

B. To define a loop

C. To handle exceptions

D. To define a function

**Answer: A. To define an alternate condition**

**41. Which keyword is used to define a function in Python?**

A. function

B. define

C. func

D. def

**Answer: D. def**

**42. What are decorators used for in Python?**

A. To remove functionality from functions

B. To define classes

C. To add functionality to functions

D. To import modules

**Answer: C. To add functionality to functions**

**43. What is the purpose of a lambda function in Python?**

A. To define anonymous functions

B. To create classes

C. To import modules

D. To iterate over a list

**Answer: A. To define anonymous functions**

**44. What is the primary purpose of regular expressions in Python?**

A. Mathematical calculations

B. Pattern matching and searching

C. File handling

D. Graphics rendering

**Answer: B. Pattern matching and searching**

**45. Which of the following is NOT a part of exception handling in Python?**

A. try

B. catch

C. finally

D. except

**Answer: B. catch**

**46. What is the primary use of multithreading in Python?**

A. To handle multiple exceptions simultaneously

B. To execute multiple threads in parallel

C. To synchronize file operations

D. To perform pattern matching

**Answer: B. To execute multiple threads in parallel**

**47. Which function is used to read a file line by line in Python?**

A. read()

B. readlines()

C. readline()

D. readfile()

**Answer: C. readline()**

**48. What is the primary use of NoSQL databases?**

A. Storing structured data only

B. Storing data in a tabular format

C. Storing unstructured data

D. Storing data in a relational manner

**Answer: C. Storing unstructured data**

**49. What is the purpose of NumPy in Python?**

A. For numerical computing

B. For web development

C. For GUI programming

D. For file handling

**Answer: A. For numerical computing**

**50. Which of the following is NOT a component of Pandas?**

A. Series

B. DataFrame

C. Index objects

D. Transposition

**Answer: D. Transposition**