

Important Python Questions for Diploma Exams

- 1. What are the main features of Python?**
- 2. Explain the difference between Python 2 and Python 3.**
- 3. What is a variable in Python? How do you declare one?**
- 4. Describe the basic data types in Python.**
- 5. What are lists and tuples? How do they differ?**
- 6. How do you create a dictionary in Python? Provide an example.**
- 7. Explain the concept of a function in Python. How do you define one?**
- 8. What is the purpose of the `if __name__ == "__main__":` statement?**
- 9. How do you handle exceptions in Python? Provide an example.**
- 10. What are modules in Python? How do you import them?**
- 11. Explain list comprehensions with an example.**
- 12. What is the purpose of the `self` keyword in class methods?**
- 13. Describe the concept of inheritance in Python.**
- 14. How do you create and use a class in Python?**
- 15. What are lambda functions? Provide an example of their use.**
- 16. Explain the difference between shallow copy and deep copy.**
- 17. How do you read from and write to a file in Python?**
- 18. What is a generator in Python? How does it differ from a normal function?**
- 19. Discuss the significance of decorators in Python.**
- 20. What are Python's built-in data structures?**
- 21. Explain how to handle command-line arguments in Python.**
- 22. What is the purpose of the `with` statement in file handling?**
- 23. How can you create a virtual environment in Python?**
- 24. Describe the concept of multithreading in Python.**
- 25. What are regular expressions? How can you use them in Python?**

26. Explain the use of the `map()`, `filter()`, and `reduce()` functions.
27. What is the difference between `==` and `is` in Python?
28. How do you implement error logging in Python?
29. What are `*args` and `**kwargs`? Provide examples.
30. Explain how to connect to a database using Python.
31. What is a package in Python? How do you create one?
32. Discuss the use of the `async` and `await` keywords in Python.
33. How do you sort a list in Python?
34. What are the differences between a compiled and an interpreted language?
35. Explain how to use assertions in Python for debugging.