Assignment
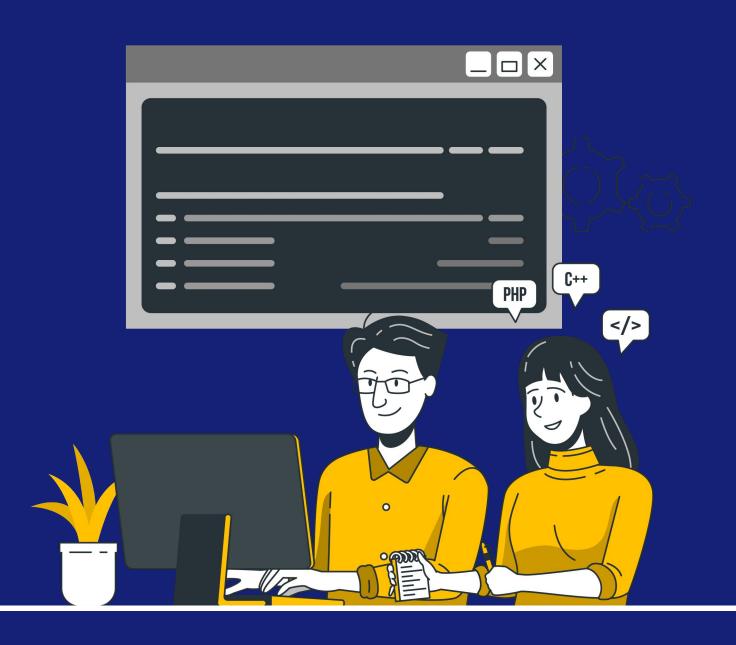
Web API & Flask

1. What is a Web API?

2. How does a Web API differ from a web service?

3. What are the benefits of using Web APIs in software development?

4. Explain the difference between SOAP and RESTful APIs.

5. What is JSON and how is it commonly used in Web APIs?

6. Can you name some popular Web API protocols other than REST?

7. What role do HTTP methods (GET, POST, PUT, DELETE, etc.) play in Web API development?

8. What is the purpose of authentication and authorization in Web APIs?

9. How can you handle versioning in Web API development?

10. What are the main components of an HTTP request and response in the context of Web APIs?

11. Describe the concept of rate limiting in the context of Web APIs.

12. How can you handle errors and exceptions in Web API responses?

13. Explain the concept of statelessness in RESTful Web APIs.

14. What are the best practices for designing and documenting Web APIs?

15. What role do API keys and tokens play in securing Web APIs?

16. What is REST, and what are its key principles?

17. Explain the difference between RESTful APIs and traditional web services.

18. What are the main HTTP methods used in RESTful architecture, and what are their purposes?

19. Describe the concept of statelessness in RESTful APIs.

20. What is the significance of URIs (Uniform Resource Identifiers) in RESTful API design?

21. Explain the role of hypermedia in RESTful APIs. How does it relate to HATEOAS?

22. What are the benefits of using RESTful APIs over other architectural styles?

23. Discuss the concept of resource representations in RESTful APIs.

24. How does REST handle communication between clients and servers?

25. What are the common data formats used in RESTful API communication?

26. Explain the importance of status codes in RESTful API responses.

27. Describe the process of versioning in RESTful API development.

28. How can you ensure security in RESTful API development? What are common authentication methods?

29. What are some best practices for documenting RESTful APIs?

30. What considerations should be made for error handling in RESTful APIs?

31. What is SOAP, and how does it differ from REST?

32. Describe the structure of a SOAP message.

33. How does SOAP handle communication between clients and servers?

34. What are the advantages and disadvantages of using SOAP-based web services?

35. How does SOAP ensure security in web service communication?

36. What is Flask, and what makes it different from other web frameworks?

37. Describe the basic structure of a Flask application.

38. How do you install Flask on your local machine?

39. Explain the concept of routing in Flask.

40. What are Flask templates, and how are they used in web development?