1. How does HashSet work internally?

2. What is the difference between HashMap and ConcurrentHashMap?

3. How can you make a HashSet synchronized?

4. What is the use of the volatile keyword in Java?

5. What is the difference between composition and inheritance?

6. What are immutable classes? How do you create one?

7. How do you handle exceptions in a layered architecture?

8. Write a program to check if a number is a palindrome.

9. Write a program to find the second largest element in an array.

10. How would you reverse words in a string without using any built-in function?

11. What is a filter chain in Spring Security?

12. At which point in the filter chain does token validation happen?

13. How do you implement role-based access control in Spring Boot?

14. What are common challenges in microservices communication?

15. How do you handle transactions across multiple microservices?

16. What is the circuit breaker pattern? Where have you used it?

17. How do you ensure that Kafka messages are being consumed properly?

18. What happens if one of your consumers goes down while consuming messages?

19. How will you handle a truncated or corrupted message?

20. What's the difference between Kafka and a traditional message queue?

21. When should you use Kafka instead of RabbitMQ or ActiveMQ?

22. What's the maximum record size or retention period Kafka supports?

23. What's the difference between plain Kafka setup and max pool Kafka?

24. How does Redis store data internally?

25. Why use Redis for caching when HashMap can also store data?

26. What is distributed caching? Explain with an example.

27. What is a Jenkins pipeline and how can you integrate SonarQube into it?

28. What is the difference between merge and rebase in Git?