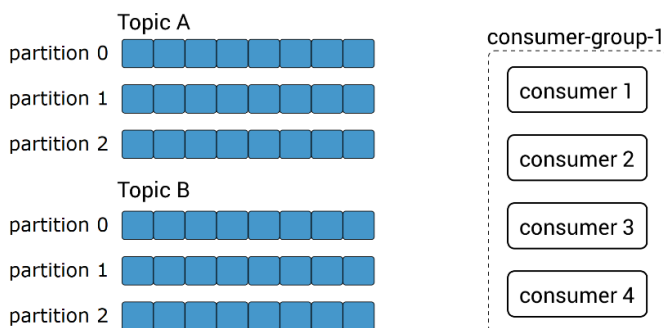1. According to the exhibit below, which broker will handle all input for partition 1 of topic "driver". (Choose one)

```
training@ubuntu:~/confluent-admin$ kafka-topics --bootstrap-server kafka-2:9092 --describe --topic driver
Topic: driver   PartitionCount: 3       ReplicationFactor: 3    Configs:
        Topic: driver   Partition: 0    Leader: 102     Replicas: 102,103,101   Isr: 102,103,101        Offline:
        Topic: driver   Partition: 1    Leader: 102     Replicas: 101,102,103   Isr: 102,103,101        Offline:
        Topic: driver   Partition: 2    Leader: 103     Replicas: 103,101,102   Isr: 103,102,101        Offline:
```

   a. 101
   b. **102**
   c. 103

2. Using the Range partition assignment strategy, which of the specified partition assignments will occur? (Choose one)

   Topic A
   partition 0
   partition 1
   partition 2

   Topic B
   partition 0
   partition 1
   partition 2

   consumer-group-1
   consumer 1
   consumer 2
   consumer 3
   consumer 4

   a. Topic A partition 0 and topic A partition 1 will be assigned to the same consumer
   b. Topic A partition 0 and topic B partition 1 will be assigned to the same consumer
   c. **Topic A partition 0 and topic B partition 0 will be assigned to the same consumer**
   d. Topic B partition 0 and topic B partition 1 will be assigned to the same consumer

3. You need all messages produced with a certain key value to be written to a single topic partition. What would you do to accomplish this? (choose one)
   a. Create a producer group and configure each producer in the group to produce messages for a single key value
   b. Invoke your producer in multiple threads and assign each producer to produce messages for a single key value
   c. **No action is necessary, the default partitioner will accomplish this**
   d. Configure your producer to send messages for all key values to one broker and configure that broker to redirect those messages to partitions based upon the message key value

4. You need to guarantee that your clients can access required Kafka cluster metadata when they start up. What would you do to accomplish this? (choose one)
   a. Provide bootstrap configuration that identifies a minimum of two Zookeeper servers to send a request for cluster metadata
   b. **Provide bootstrap configuration that identifies a minimum of two Kafka brokers to send a request for cluster metadata**
   c. Provide bootstrap configuration that identifies the Kafka cluster controller to send a request for cluster metadata

d. Provide bootstrap configuration with the cluster id that the Kafka client uses to discover the cluster and all its related metadata

5. You need to guarantee messages are produced to Kafka at most once. What would you do to implement this? (choose two)
   a. Set acks=ALL
   b. **Set acks=0**
   c. **Set acks=1**

6. Your priority for producing messages to the Kafka cluster is maximum throughput over low latency. What would you do to accomplish this? (choose one)
   a. Set batch.size low value and linger.ms to 0
   b. Set batch.size high value and linger.ms to 0
   c. Set batch.size low value and linger.ms to high value
   d. **Set batch.size high value and linger.ms to high value**

7. Your Kafka cluster consists of 3 brokers. You have 4 producer clients sending messages to the "driver" topic which currently has 12 partitions and the related produce requests are receiving timeout exceptions. What would you do to reduce these exceptions? (choose one)
   a. Increase the number of producer clients from 4 to 6
   b. Increase the number of "driver" topic partitions from 12 to 15
   c. **Increase the number of brokers from 3 to 4 and distribute the 12 partitions equally across the 4 brokers**
   d. Increase the replication factor of the "driver" topic to scale out the produce requests

8. Your organization is developing an application that produces messages to Kafka with a requirement that the messages are evenly distributed across a topic with 20 partitions. After completing the initial design phase and client development, load testing resulted in the following:

   • 5% of test messages were written to 5 partitions
   • 20% of test messages were written to 10 partitions
   • 75% of test message were written to 5 partitions
   • Key assignment for the test messages correctly represented what is expected for the production environment

   What action might result in more even distribution of produced messages across the available partitions? (choose two)

   a. **Write a custom partitioner**
   b. Increase the number of producer clients used by the application
   c. **Redesign the message key**
   d. Distribute the topic partitions across additional brokers

9. Your organization is developing an application that will render content on web pages based upon how the current user matches up against various demographic categories. When the user first accesses the web page it will generate a page view event written to a corresponding Kafka topic. The user profile database will also be ingested into a Kafka topic using a Kafka connector.

How do the web page view events and the user profile data need to be produced into their respective topics to allow for the application to easily associate each page view event with the corresponding user profile? (choose one)
   a. Configure the two topics so that they are written to the same Kafka cluster
   b. **Configure the two topics so they are co-partitioned**
   c. Stand up a producer and a Kafka connector on each client machine and assign these machines a subset of page view and corresponding user profile data
   d. Write a consumer application that processes all records in both the page view and user profile topics and allow it to associate these records as needed

10. Your organization has a requirement to enrich data coming in from sensor devices that capture environmental data with sensor device profile data contained in a database that includes details such as location, device model, etc. Which of the following scenarios would best answer this requirement? (choose one)
   a. Produce the data coming from the sensor devices into a Kafka topic using the Message Queuing Telemetry Transport (MQTT) proxy and as an intermediate step, enrich each sensor data record using the Java database connectivity (JDBC) source connector to access the sensor device profile data combined with multiple single message transforms (SMT).
   b. Produce the data coming from the sensor devices into a Kafka topic using the MQTT connector and as an intermediate step, enrich each sensor data record using the JDBC sink connector to access the sensor device profile data combined with multiple SMTs.
   c. **Produce the data coming from the sensor devices into a Kafka topic using the MQTT proxy. Produce the sensor device profile data into a second Kafka topic using the JDBC source connector. Write a Kafka streams application to enrich the sensor data records with the sensor device profile data and write this out to a third Kafka topic.**
   d. Write a Kafka producer client that captures the sensor device data using the MQTT proxy and enriches each record using sensor device profile data that it directly accesses from the source database. The enriched records will then be produced into a Kafka topic.

11. Your organization has a Kafka streams application that requires access to customer profile data maintained in a traditional relational database management system (RDBMS). This customer profile data contains sensitive Personal Identifying Information (PII). Which of the following solutions will give the Kafka streams application access to the non-PII customer profile data? (choose one)
   a. Use the Java database connectivity (JDBC) source connector to produce the customer profile data to a Kafka topic. Use a Kafka streams application to process and remove the PII from each customer profile data record as it is written to the initial Kafka topic. The Kafka streams application can then consume that topic.
   b. **Use the JDBC source connector to produce the customer profile data to a Kafka topic. Include a single message transform masking operation in the connector configuration to mask the PII data before it is written to the Kafka topic. The Kafka streams application can then consume that topic.**
   c. Use a ksqlDB application to read the customer profile data in the RDBMS, filter the PII data from each record, and write the filtered profile data to a Kafka topic. The Kafka streams application can then consume that topic.

d. Write a custom Kafka producer to access the customer profile data, remove the customer PII from each record, and produce the filtered record to a Kafka topic. The Kafka streams application can then consume that topic.

12. Your organization has an application that uses a Kafka source connector to produce records into a Kafka topic. The load on this application varies depending upon the quantity of daily customer purchases. Which of the following will best accommodate this variable load on the application?
    a. Increase and decrease the number of brokers in the Kafka cluster based upon current application load.
    b. Increase and decrease the number of Kafka connector tasks based upon current application load.
    c. **Increase and decrease the number of Kafka connect workers based upon current application load.**
    d. Increase and decrease the number of Kafka topic partitions to which records are written based upon current application load.

13. Your organization has legacy data stored in relational database management system (RDBMS). It has a requirement to ingest this legacy data into Kafka and transform it into multiple formats so that is can be easily processed various microservices that the organization now relies on. The development team that is assigned this task has experience using structured query language (SQL) procedures as part of its role managing data within the legacy RDBMS. Considering these factors, which of the following solutions is the best choice to satisfy the requirement? (choose one)
    a. Use the Java database connectivity (JDBC) source connector to produce the legacy data to a Kafka topic. Use a Kafka streams application to transform the data as needed.
    b. Create a new database schema in the RDBMS that meets the requirements of the microservices and transform the legacy data from the existing schema to the new schema using SQL procedures. Use the Java database connectivity (JDBC) source connector to produce the legacy data to a Kafka topic.
    c. **Use the Java database connectivity (JDBC) source connector to produce the legacy data to a Kafka topic. Use ksqlDB to transform the data as needed and direct the resulting data to new Kafka topics.**
    d. Use the JDBC source connector to produce the legacy data to multiple Kafka topics. For each destination Kafka topic, include single message transforms as needed to transform the data to meet the requirement for that topic.