**Google Data Engineer Interview Guide – Experienced 5+**

**Round 1: Coding**

**Problem:**

 A machine has 4 buttons:

1. +60 minutes

2. +15 minutes

3. + 5 minutes

4. +1 minute

 **Input:** A target time in HH:MM format and the current timestamp displayed on the machine.

 **Task:** Calculate the minimum number of button presses to get from the current time to the input time.

**Round 2: Coding**

**Problem:**

 **Input**: Timestamps in the format HH:MM, where 0 ≤ H ≤ 9 and 0 ≤ M ≤ 9.

 **Task**: Write a program to find the next minimum timestamp using the same digits of the given time.

**Round 3: Technical**

**Key Topics:**

1. **Apache Spark Fundamentals:**

Out-of-Memory (OOM) scenarios and their solutions. Optimization techniques for Spark applications. Optimized joins in Spark.

2. **SQL Problems:**

Solve queries related to an employee-manager dataset.

3. **Coding Question:**

Find the frequency of each character in a given string.

**Round 4: Application Design & Domain Knowledge**

**Task:**

 Design an Uber-like application and its Data Warehouse.

**Round 5: System Integration Knowledge**

**Key Topics:**

 Deep dive into projects mentioned on my resume.

 Task: Design a real-time data ingestion pipeline that:

 Consumes data from an IoT device.

 Processes the data in real-time.

 Ingests the processed data into BigQuery.

**Round 6: Googliness**

**Focus Areas:**

 Behavioural and team fitment questions.

 Discussion around Google’s leadership principles.

**Sample Questions:**

1. **CTO Scenario:**

 Imagine you are promoted to CTO in a startup after the CTO leaves.

 Question: What changes would you bring from both employee and employer perspectives?

2. **Team Conflict Scenario:**

 You are reviewing a teammate's architecture design, but they are rigid and not accepting feedback.

 Question: How would you handle this situation and communicate with your manager?

**Round 7: Hiring Manager Discussion**

**Key Focus:**

 Detailed discussion around my past experience and projects.

 Questions about:

 Challenges faced in previous projects.

 How I approached and resolved those challenges.