Build Challenge Instructions

Review the requirements and submit your completed challenge

Overview

Complete the coding challenge assignments using Java or Python. Each assignment tests specific programming competencies and should be implemented with best practices.

Implementation Steps

- Create new Java or Python project in IDE
- Implement required classes
- Write comprehensive unit tests
- Document code with comments

Assignment 1: undefined

- Required: true
- Languages:
- - java
- - python
- Short Description: Implement producer-consumer pattern with thread synchronization
- Testing Objectives:
- - Thread synchronization
- - Concurrent programming
- - Blocking queues
- - Wait/Notify mechanism
- Detailed Description: Implement a classic producer-consumer pattern demonstrating thread synchronization and communication. The program will simulate concurrent data transfer between a producer thread that reads from a source container and places items into a shared queue, and a consumer thread that reads from the queue and stores items in a destination container.

Assignment 2: undefined

• Required: true

• Languages:

• - java

• - python

• Short Description: Perform data analysis using appropriate API on CSV data

• Testing Objectives:

• - Functional programming

• - Stream operations

• - Data aggregation

• - Lambda expressions

• Detailed Description: Develop a application that demonstrates proficiency with the Streams by performing various aggregation and grouping operations on sales data provided in CSV format. The program will read data from a CSV file and execute multiple analytical queries using functional programming paradigms. Select or construct a CSV dataset that you feel best fits the problem and document your choices and assumptions as part of your solution.

Deliverables

• Public GitHub repository URL

• Complete source code

• Unit tests for all analysis methods

• README with setup instructions and sample output

• Results of all analyses printed to console