

# Hackathon

# Instructions

You will be given 3 problem statements, you can choose any one of them.

You have to build all the functionalities.

Evaluation will start after 1st half.

This hackathon presents 3 unique problem-solving challenges designed to test algorithmic thinking, optimization skills, and real-world application development. Each problem is based on actual business scenarios and requires participants to balance multiple competing objectives while satisfying various constraints.

## Challenge Structure

Each problem includes:

- Detailed business context and background story
- Complete technical requirements and data specifications
- Constraints (hard and soft) that solutions must satisfy
- Success metrics for evaluation
- Recommended solution approach with implementation details
- Expected output format examples

## Skills Tested

These problems will challenge participants in:

- Algorithm design and optimization techniques
- Multi-objective decision making and trade-off analysis
- Constraint satisfaction and feasibility checking
- Real-time system design and queue management
- Data structure selection and implementation
- System simulation and performance analysis

# Problem Statement 1

<https://docs.google.com/document/d/13TmSJj8QB8sfukVWZ0VAbfGuNxJ3vunia7Tcrc68iik/edit?tab=t.0>

# Problem Statement 2

[https://docs.google.com/document/d/150skE\\_wxL9DzSofyIYCpnzFn3i2onfRVij5D5GQh9wl/edit?tab=t.0](https://docs.google.com/document/d/150skE_wxL9DzSofyIYCpnzFn3i2onfRVij5D5GQh9wl/edit?tab=t.0)

# Problem Statement 3

[https://docs.google.com/document/d/1gRjzQprWx25sWQDd\\_nYU6ICA2Qx0znfWIp\\_uA-opRk8/edit?tab=t.0](https://docs.google.com/document/d/1gRjzQprWx25sWQDd_nYU6ICA2Qx0znfWIp_uA-opRk8/edit?tab=t.0)