

Problem Statements Using ThreadGroup Concept

1. Problem Statement: Basic ThreadGroup Example Using extends Thread

- Create a ThreadGroup and add three threads that extend Thread to the group. Each thread should print its name and the group it belongs to. Start all threads.

Problem Statement: Basic ThreadGroup Example Using implements Runnable

2. Create a ThreadGroup and add three threads that implement Runnable to the group. Each thread should print its name and the group it belongs to. Start all threads.

Problem Statement: Real-Time Example - Multi-Task Processing System

3. Simulate a multi-task processing system where different tasks (threads) belong to different departments (thread groups). Create two thread groups, "DepartmentA" and "DepartmentB". Add three threads to each group. Each thread should print its department, task name, and execute a simple task like counting to 5 with a 1-second delay between counts.

Problem Statement: Real-Time Example - Web Server Simulation

4. Simulate a simple web server where different types of requests (threads) belong to different categories (thread groups). Create two thread groups, "GETRequests" and "POSTRequests". Add three threads to each group. Each thread should print its request type, thread name, and simulate handling the request by sleeping for 2 seconds.

Problem Statement: Real-Time Example - Batch Processing System

5. Simulate a batch processing system where each batch (thread group) processes a list of items. Create two thread groups, "Batch1" and "Batch2". Each thread in the group should process one item from the list. The threads should print the batch they belong to, their thread name, and the item they are processing.

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