Phase 5: Apex Programming (Developer)

Key Activities:
- Classes & Objects
- Triggers
- Trigger Design Pattern
- SOQL & SOSL
- Collections (List, Set, Map)
- Control Statements
- Batch Apex, Queueable, Scheduled Apex
- Future Methods
- Exception Handling
- Test Classes
- Asynchronous Processing

Description:
In Institute Management:

1. Triggers:
- On Attendance insert, update monthly count.
- On Course delete, prevent if students enrolled.

2. Classes:
- AttendanceService, StudentService for business logic.

3. Batch Apex:
- Reset attendance counts on 1st of every month.

4. Queueable / Future:
- Send bulk email alerts asynchronously.

5. Test Classes:
- Cover all triggers and classes with 75%+ coverage.

Outcome:
Custom Apex enhances automation, performance, and allows complex business rules.