Interns Orientation Program

Week 1

Java

- Concepts
  - Core JAVA, Collections, MVC, API Basics
  - JAVA Generic Project Creation with IDE, Git tutorial
- Assignment:
  - Input a file using byte array, store it on local system.
  - Create a download link for the file. No Spring Project on Libraries use Core JAVA Only.

C++

- Concepts
  - STL Containers, C++ Libraries & Tools
  - Generic Project Creation with IDE, Git tutorial
- Assignment:
  - Find a JSON library from "C++ Libraries & Tools" and use it to demonstrate STL containers serialization & deserialization to JSON in a visual studio project

Week 2

Java

- Concepts
  - Spring Boot / Jersey with API Development(CRUD)
  - Build Tools(Maven, Groovey)Assignment:
- Assignment
  - Build a java based application to allow user to create, read, update and delete below mentioned Entities.
    1. Student
    2. Teacher
    3. Subject

    Expected Output
    1. ER Diagram of the Entities with Table Structure and Column Fields
    2. Deployable WAR file with below APIs exposed
    Add/Create Student, Teacher and Subject
    Edit Student to Add Selected Subjects
    Delete Student
    Add Teacher for a specific Subject
    Edit Teacher to change Subject

C++

- Concepts
  - Application and Library development
  - Build Tools (GCC/ Makefiles/ G++/ Clang)
- Assignment:
  - Implement a program that reads and writes into student database with sqliteDB, the Database contains the Names, Roll numbers, Marks and 5 subjects
  - Build above project as Makefile project, submit above project on github and share

study material week 1

Java

- Week 1
  - **Week 1**
  - Core JAVA, Collections https://www.programiz.com/java-programming
  - JAVA Generic Project Creation with IDE
  - Git tutorial https://www.vogella.com/tutorials/Git/article.html
  - MVC https://www.edureka.co/blog/mvc-architecture-in-java/
  - API Basics https://happycoding.io/tutorials/java-server/rest-api

C++

- **Week 1**
- C++ Concepts https://nptel.ac.in/courses/106105151
  https://www.coursera.org/learn/c-plus-plus-a
  http://isocpp.github.io/CppCoreGuidelines/CppCoreGuidelines
  https://isocpp.org/faq
- C++ Containers https://www.geeksforgeeks.org/containers-cpp-stl/
- Generic Project Creation with IDE
- Use Visual Studio for development.
- Git tutorial https://www.vogella.com/tutorials/Git/article.html
  https://nvie.com/posts/a-successful-git-branching-model/
- Use Visual Studio git functionality to push the above project on github repository

study material week 2

Java

- **Week 2**
- Spring Boot / Jersey with API Development(CRUD) https://www.youtube.com/watch?v=msXL2oDexqw&list=PLqq-6Pq4lTTbx8p2oCgcAQGQyqN8XeA1x
- Build Tools(Maven, Groovey) https://www.youtube.com/watch?v=x8sMN4tossY

C++

- **Week 2**
- Application and Library development (CRUD)
- C++ Libraries & Tools
- https://en.cppreference.com/w/cpp/links/libs https://gitee.com/leslie_lee/awesome-cpp
- SQLite tutorial
- https://youtu.be/-C5HSdPU3TI