Assignment

**1) Maven lifecycle and commands:**

* Lifecycle:

1. Validate: It validates if the project structure is correct. It checks if all the dependencies have been downloaded and are available in the local repository.
2. Compile: It compiles the source code, converts the .java files to .class and stores the classes in target/classes folder.
3. Test: It runs unit tests for the project.
4. Package: This step packages the compiled code in distributable format like JAR or WAR.
5. Integration test: It runs the integration tests for the project.
6. Verify: Checks to verify that the project is valid and meets the quality standards.
7. Install: Installs the packaged code to the local Maven repository.
8. Deploy: It copies the packaged code to the remote repository for sharing it with other developers.

* commands:

1. mvn clean
2. mvn compile
3. mvn test-compile
4. mvn test
5. mvn package
6. mvn install
7. mvn deploy

**2)describe 3 lines each :**

1. mvn --version : To verify whether maven is installed or not.
2. mvn -- compile: Compiles source code of the project.
3. mvn --test : Runs tests for the project
4. mvn -- install :Deploys the packaged JAR/ WAR file to the local repository.
5. mvn --clean :Cleans the project and removes all files generated by the previous build.

**3) WHAT Is WEB SERVICES ?**

A web service is any piece of software that makes itself available over the internet and uses a standardized XML messaging system. XML is used to encode all communications to a web service.

Web services fulfill a specific task or a set of tasks. A web service is described using a standard, formal XML notion, called its service description, that provides all of the details necessary to interact with the service, including message formats transport protocols, and location.

**4)what is rest controller**

RestController is a Spring annotation that is used to build REST API in a declarative way. RestController annotation is applied to a class to mark it as a request handler, and Spring will do the building and provide the RESTful web service at runtime.

The RestController allows to handle all REST APIs such as GET, POST, Delete, PUT requests.

**5 ) we services and its methods: get , post , put delete ? describe its**.

1. Post:  
    The POST is utilized to create new resources.POST is neither safe nor idempotent. It is therefore recommended for non-idempotent resource requests. Making two identical POST requests will most-likely result in two resources containing the same information.
2. Get:   
    Provides a read only access to a resource and not change it. Therefore, when used this way, they are considered safe.  
    Show list of all the users.
3. Put:   
    Used to update a existing resource or create a new resource.PUT is not a safe operation, in that it modifies (or creates) state on the server, but it is idempotent.
4. Delete:

Used to remove a resource.