

Assignment01-Q3: “Maven is an open source tool which is used to help manage dependencies, and handle the various stages of compiling, building, testing, deployment, and management of the projects. Maven is able to simplify the management and acquiring of dependencies for us from both our local repository as well as the remote and central maven repositories. We can have our projects run on different versions of these repositories to match the needs of our project. Maven is also able to help us manage our projects and works across all platforms and operating systems which Java supports. Maven is also able to help us specify life cycles, phases, goals, profiles and add plugins to support the building of the projects. We are able to configure the project structure, dependencies, and building process using a pom.xml. Maven is similar to other open source tools like npm for JavaScript and PIP for Python”

Assignment01-Q4: “Divide-and-Conquer principle is one of the principles of object oriented design. It is a concept where we take large and complex problems, then we split into smaller sub problems, then tackle and solve the those sub problems, and then assemble and combine them the solutions. By implementing divide and conquer principle, we promote modular design of our code and clarity during debugging. Encapsulation principle is another one of the principles of object oriented design. It is a concept where we are able to control the access and mutations of the data associated with the program. By implementing this concept, we are able to bundle the data and our program in a single unit and be able to enforce secure data access within our program. Open-Closed principle is one of the principles of object oriented design. It is a concept where we are able to extend existing implementations of classes while ensuring that the existing code is immutable. By creating abstractions over modifications of existing code, we promote backwards compatibility, maintenance, and the ability to create multiple extensions. Single responsibility model is another concept of object oriented design. It is a concept where we give a task or a job to a class or program instead of having multiple tasks given to a single class. By implementing this concept, we are able to ensure that the classes are more readable and easier to maintain.”