Task(1) Version Control System

In software engineering,versioncontrol (also known as revision control, source control, or source code management). In software engineering, version control is a class of systems responsible for managing changes to computer programs, documents, large web sites, or other collections of information. Version control is a component of software configuration management. Version control systems (VCS) are most commonly run as stand-alone applications, but revision control is also embedded in various types of software such as word processors and spreadsheets,collaborative web docs and in various content management system.

Task(2) What is version control system?

1. Version control systems are a category of software tools that helps record changes to files by keeping a track of modifications done to the code.
2. Version control allows you to manage changes to files over time.
3. Version control allows multiple developers, designers, and team members to work together on the same project.
4. We should use version control software for all code, files, and assets that multiple team members will collaborate on.

Task(3) Git version control

1. GitHub is a highly used software that is typically used for version control.
2. Git version control is one of the most popular options.
3. Git version control is open source.
4. Github helps software developers to build a centralized repository where everyone can upload, edit, and manage the code files.
5. Distributed system: Having a distributed system, Git allows the users to work simultaneously on the same project, without interfering with others’ work.
6. Non-linear Development: A user can pick up any part of the project and do the required operation and then further update the project.
7. Secure: Git keeps a record of all the commits done by each of the collaborators on the local copy of the developer.
8. **Compatabilitty:** Git is compatible with all the Operating Systems.

Task(4) : Testing in software development life cycle

1. Testing is one of the most critical processes of the Software Development Lifecycle (SDLC).
2. Testing phase helps companies to perform a comprehensive assessment of software and ensure that their product fulfills the client’s needs.
3. The testing phases of the software development lifecycle help companies to identify all the bugs and errors in the software before the implementation phase begins.
4. If software bugs are not resolved before deployment, they can adversely affect the client’s business.

Important of testing in software development life cycle

Testing phases are some of the most important components of the Software Development Life Cycle. These processes have to be executed in a methodical approach to ensure that all requirements are met.

1. Testing in SDLC helps to improve that all the software requirements are always implemented or not.
2. Testing helps in identifying defects and ensuring that testing are addressed before software development.
3. Testing in SDLC means that testing always improve the quality of product and project.
4. Testing is executing a system in order to identify any gaps, errors or missing requirements in contrary to the actual requirements.

Task(5): Junit Testing

JUnit is a unit testing framework designed for the Java programming language. JUnit has played an important role in the development of test-driven development frameworks. The JUnit platform provides developers with an advanced testing framework for unit tests, among others. It supports a number of popular IDEs and build tools like IntelliJ IDEA, Eclipse, Maven, and more, making it compatible with any set up you might be running.

* Open Source: JUnit is an open-source testing framework. Hence, a broader community can contribute to the software. That leads to better and faster development from developers across the world.
* **Early bug-finder:** JUnit finds the bug early in code as compared to other test frameworks. When a bug is found, it is indicated in a separate section until it is resolved. This helps drive focus on debugging.