Subject name:	DevOps Lab		Subject Code: ITL803	
Class	BE IT	Semester – VIII (CBCGS)	Academic year: 2019-20	
Name of Student	Omkar Dattaraj Dali		**QUIZ Score :10**	
Roll No	10	Assignment/Experiment No.		05

Title: Perform version control on software/web site using various version control systems

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1.Course objectives applicable
LOB3. To understand different Version Control tools like GIT, CVS or Mercurial

2. Course outcomes applicable:
LO23-.Examine the different Version Control strategies

3. Learning Objectives:
1. Understand the Version Control System like GIT
2. Understand the controlling and keeping the software versions for later modifications.

4. Practical applications of the assignment/experiment: To automate the several tasks such as automatic building the code ,deploying the code and notifying the developer about build status via sms/email etc

5. Prerequisites:
1. Familiar with Linux os
2. Internet Access
3. Python IDE pycharm and git account

6. Hardware Requirements:
1. Internet Access with Browser
2. Access to root privileges on fedora 30

7. Software Requirements:
   Git and python IDE pycharm

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8. Quiz Questions (if any): (Online Exam will be taken separately batchwise, attach the certificate/ Marks obtained)
1. What is version controlling system?
2. What is git?
3. What are the benefits of VCS?

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9. Experiment/Assignment Evaluation:

Sr. No.	Parameters	Marks obtained	Out of
1	Technical Understanding (Assessment may be done based on Q & A **or** any other relevant method.) Teacher should mention the other method used -		6
2	Neatness/presentation		2
3	Punctuality		2
Date of performance (DOP)		**Total marks obtained**	**10**
Date of checking (DOC)		**Signature of teacher**	

10. Theory-.

Version control systems are a category of software tools that help a software team manage changes to source code over time. Version control software keeps track of every modification to the code in a special kind of database. If a mistake is made, developers can turn back the clock and compare earlier versions of the code to help fix the mistake while minimizing disruption to all team members.

Software developers working in teams are continually writing new source code and changing existing source code. The code for a project, app or software component is typically organized in a folder structure or "file tree". One developer on the team may be working on a new feature while another developer fixes an unrelated bug by changing code, each developer may make their changes in several parts of the file tree.

Version control helps teams solve these kinds of problems, tracking every individual change by each contributor and helping prevent concurrent work from conflicting. Changes made in one part of the software can be incompatible with those made by another developer working at the same time. This problem should be discovered and solved in an orderly manner without blocking the work of the rest of the team. Further, in all software development, any change can introduce new bugs on its own and new software can't be trusted until it's tested. So testing and development proceed together until a new version is ready.

Software teams that do not use any form of version control often run into problems like not knowing which changes that have been made are available to users or the creation of incompatible changes between two unrelated pieces of work that must then be painstakingly untangled and reworked. If you're a developer who has never used version control you may have added versions to your files, perhaps with suffixes like "final" or "latest" and then had to later deal with a new final version.
Perhaps you've commented out code blocks because you want to disable certain functionality without deleting the code, fearing that there may be a use for it later. Version control is a way out of these problems.

Version control software is an essential part of the every-day of the modern software team's professional practices. Individual software developers who are accustomed to working with a capable version control system in their teams typically recognize the incredible value version control also gives them even on small solo projects. Once accustomed to the powerful benefits of version control systems, many developers wouldn't consider working without it even for non-software projects.

11. Installation Steps / Performance Steps –

Creating a Git repository

Press Alt+` to show the the most popular VCS commands (same action is available on the main menu: VCS→VCS Operations Popup). Then select Create Git repository:
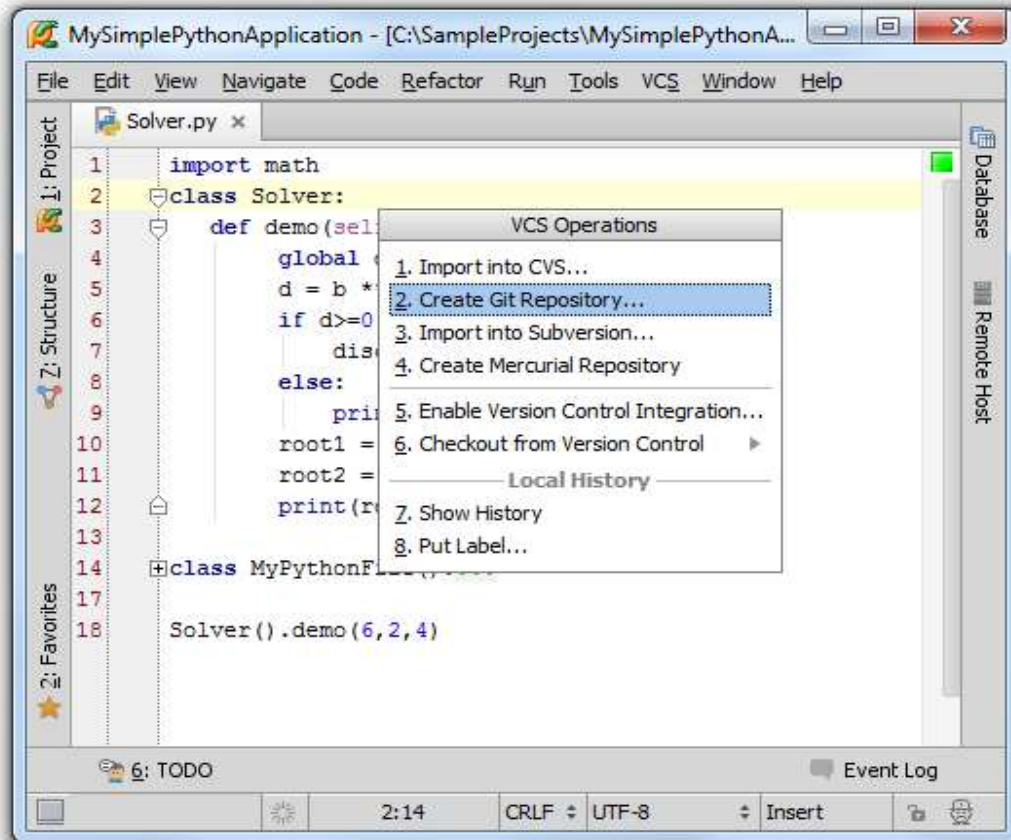
12. Learning Outcomes Achieved.

1. Student understood the process of version control system
2. Students understood the git commands
3. Students understood the use of git hub for software versioning

13. Conclusion:

1. **Applications of the studied technique in industry**
    a. To update software components simultaneously ,VCS is widely used
    b. To revert the changes made in web sites ,VCS can be effective solution
2. **Engineering Relevance**
    a. Quickly start using of any application/services
    b. To use as a backup tool
3. **Skills Developed**
    a. Installations of git on fedora30

14. References:

1. https://www.atlassian.com/git/tutorials/what-is-version-control
2. shttps://www.perforce.com/blog/vcs/what-is-version-control