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**Experiment 1:**

**Using Software Tools and Code Versioning System**

CPE106L (Software Design Laboratory)

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Group No.: **5**

Section: **B2**

## **PreLab**



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| **Laboratory Insights** |
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**Claros**

In the first laboratory, we were introduced to software applications or platforms such as the use of Oracle VM VirtualBox to run and get familiarized with a Linux OS and the importance of using GitHub. Additionally, we were introduced to another coding language – which is my second language to learn – Python. Initially, with the use of the METIS book, I was able to become familiar with the basics of Python immediately.

Based on what I’ve learned from the characteristics of the Python programming language and by looking at the basic syntax that I’ve learned, this language is more straightforward and less complicated than C++. That’s why it is no wonder that this language is popular, as code made in Python is much easier to read due to its English-like syntax. However, in this laboratory, one of the key takeaways is how important indentation is in this language. And it is a good thing that we have books available in METIS, as it became easier to grasp the basics of Python. Overall, with this learning, I am even more eager to enhance my skills in this high-level language and apply this in the future, such as building and developing software programs and more.

Lastly, we were introduced to the utilization and importance of GitHub. With this knowledge, my groupmates and I will be able to collaborate effectively as we can now track and share codes simultaneously. Also, we can facilitate a productive environment due to our capability to collaborate seamlessly, which I believe is one of the important characteristics to learn before entering the professional arena.

**Facal**

For our first laboratory, we were introduced to Python. It is a programming language that is suitable for both entry-level and professional programmers. Python is used in a wide variety of fields such as web development, data science, machine learning, and artificial intelligence (AI). It also has various modules, frameworks, and libraries that can be used in different programs like NumPy, Pandas, Jupyter, etc.

In addition, Laboratory one includes the introduction of Github - a web-based platform that allows developers to easily collaborate with each other and create repositories for their codes.  We were instructed to create a repository which will be helpful for future group projects.

To conclude, Python and GitHub are commonly used amongst programmers, software developers, and engineers alike. Python as a programming language and GitHub as a web-based platform for developers. These were among the key concepts assimilated both preceding and following the initial laboratory session.

**Santos**

The world of programming offers a wide range of tools that bring ideas to life. Prelab Number 1 delves into three fundamental elements: Python, Git, and GitHub. From experience, Python's user-friendly nature makes it an excellent starting point for programmers. It offered me a more straightforward syntax which, unlike my previously used language, C++ uses a manual compilation. The book resource "Fundamentals of Python: Data Structures" by Kenneth Lambert has also better explained Python's capabilities from the basics of object-oriented programming (OOP) to data structures in depth. Moreover, from reading through the book I have observed that Python is much easier to understand since it uses an almost English sentence-constructed syntax. From my previous knowledge of programming and the book resource METIS, I was able to grasp the lesson and adjust to Python more easily.

I was also introduced to the utilization of GitHub – a version control system that enables developers to collaborate effectively. GitHub, acting as a main repository, I learned that it could facilitate code sharing and collaboration. With this, I was able to share my work with my groupmates and work with them more effectively.

In conclusion, Python, Git, and GitHub form a foundation for programmers of all levels. Python's versatility makes it a valuable tool, while Git ensures efficient version control, and GitHub fosters collaboration and knowledge sharing within the developer community. Mastering these tools is an essential starting point for creating solutions and contributing to the ever-evolving world of technology.