**Tool Application**

**Document**

**Table of Contents:**

1. Introduction

2. Tools

3. Results Obtained

**Introduction:**

This report specifies the tools which are used to implement the project, Code cloning, and Bug detection reports.

In the market, there are a lot of IDEs and applications which are readily available. Github is one of the hosting platform applications which is used for our project. These Open-source applications are being used by many Organizations and Individual developers for their day-to-day implementation based on the technology used for the application development. Such applications are Eclipse, Visual Studio Code, IntelliJ IDEA, Spyder, Pycharm, Jupyter, etc.,

Our Project completely deals with Python Programming. So, I have used Spyder, and Visual Studio Code.

**Tools:**

1. **GitHub**:

GitHub is a Code hosting Platform for version control and collaboration. It lets us and others work together on projects from anywhere. GitHub themselves have a great tutorial that will teach us the basic flow of creating a repository, managing branches, making changes, and merging those changes via pull request. In our project, I have used Github for version control with the given requirements in 3 phases.

1. **Spyder IDE**:

As mentioned earlier, the entire implementation of the code is done in Spyder which is one of the efficient IDE for python. The Three phases of Requirements are developed in this IDE and worked accordingly. It is a user-friendly IDE that makes us develop efficient code.

1. **Visual Studio Code:**

This is also one of the most used IDEs for the development of projects in almost all languages. Most of the users will use this IDE for JAVA, C, C#, and Python language-based projects.

In our project, I have used it for checking the bugs. Using this IDE we can do the Bug Detection.

1. **PEP8 Online Check:**

PEP8 or Python Enhancement Proposal is a Style Guide for Python Code development. It is readily available in the form of a package that we can install and use during the implementation. Here in our project, it is used for Code Cloning detection. I have used the online version which is available in the website.

**Results Obtained:**

Here I have used multiple tools for the development and detection to display the results efficiently.

1. **Code Cloning:**

As mentioned in the earlier places that for code cloning, I have used Spyder IDE and PEP8. Both results are captured and attached in the form of pictures below.

Here I have two files stringsandwrods.py, operations.py for which the results are shown below.

PEP8 Code Cloning Results:

Stringsandwords.py:

![Graphical user interface, text, application

Description automatically generated]()

operations.py:

![Graphical user interface, text, application, email

Description automatically generated]()

Spyder IDE Code Cloning Results:

Stringsnadwords.py:

![A screenshot of a computer

Description automatically generated with medium confidence]()

Operations.py:

![Graphical user interface, text, application

Description automatically generated]()

1. **Bug Detection:**

Bug detection is one of the major work to do for the efficient working condition of the application.

Here in this project, I have used Visual Studio Code IDE for Bug Detection.

For the two files Stringsandwords.py, Operations.py I have captured the reports and attached them below.

Visual Studio Code Bug Detection Results:

Stringsandwords.py:

Text

Description automatically generated

From this, we can see that there are no bugs detected and we can say that the code is Bug-Free.

Operations.py:

Text

Description automatically generated

From this, we can say the same no bugs were detected. So, it is a Bug-Free code.

These are the results obtained for the two files in our Project.

From the above results, It is clear that the codes are efficient and can work properly.