

Assignment No	10(Group B-4)
Title	Write a web application using Scala/ Python/ Java /HTML5 to check the plagiarism in the given text paragraph written/ copied in the text box. Give software Modeling, Design, UML and Test cases for the same using COMET (Concurrent Object Oriented Modeling and Architectural Design Method).
Date	
Signature of Faculty	

**Assignment No. : 10**

**1. TITLE**

Write a web application using Scala/ Python/ Java /HTML5 to check the plagiarism in the given text paragraph written/ copied in the text box. Give software Modeling, Design, UML and Test cases for the same using COMET (Concurrent Object Oriented Modeling and Architectural Design Method).

**2. PREREQUISITES**

- 64-bit Fedora or equivalent OS with 64-bit Intel-i5/i7
- Java 1.7.0

**3. OBJECTIVE**

- To implement the logic for Check the Plagiarism in the given text.
- Understand the Meaning of Software modeling using COMET.

**4. THEORY**

Observations of plagiarism behavior in practice reveal a number of commonly found methods for illegitimate text usage, which can briefly be summarized as follows. Copy & Paste (c & p) plagiarism specifies the act of taking over parts or the entirety of a text verbatim from another author. Disguised plagiarism includes practices intended to mask literally copied segments. Undue paraphrasing defines the intentional rewriting of foreign thoughts, in the vocabulary and style of the plagiarist without giving due credit in order to conceal the original source. Translated plagiarism is the manual or automated conversion of content from one language to another intended to cover its origin. Idea plagiarism encompasses the usage of a broader foreign concept without appropriate source acknowledgement. An Example is the appropriation of research approaches, methods, experimental setups, argumentative structures, background sources etc.

**COMET**

COMET is a highly iterative object-oriented software development method that addresses the requirements, analysis, and design modeling phases of the object-oriented development life cycle. The functional requirements of the system are defined in terms of actors and use cases. Each use case defines a sequence of interactions between one or more actors and the system. A use case can be viewed at various levels of detail. In a *requirements* model, the functional

requirements of the system are defined in terms of actors and use cases. In an *analysis* model, the use case is realized to describe the objects that participate in the use case, and their interactions. In the *design* model.

### Java Scanner class

To Check the Plagiarism in the given text first of all perform string compare operation also need to understand the operation related to scanner classes. There are various ways to read input from the keyboard, the java.util.Scanner class is one of them.

- The **Java Scanner** class breaks the input into tokens using a delimiter that is whitespace by default. It provides many methods to read and parse various primitive values.
- Java Scanner class is widely used to parse text for string and primitive types using regular expression.
- Java Scanner class extends Object class and implements Iterator and Closeable interfaces.

**java.io.PrintStream class:** The PrintStream class provides methods to write data to another stream. The PrintStream class automatically flushes the data so there is no need to call flush() method. Moreover, its methods don't throw IOException.

**Stream:** A stream is a sequence of data. In Java a stream is composed of bytes. It's called a stream because it's like a stream of water that continues to flow. In java, 3 streams are created for us automatically. All these streams are attached with console.

1) **System.out:** standard output stream

2) **System.in:** standard input stream

3) **System.err:** standard error stream

### OutputStream

Java application uses an output stream to write data to a destination, it may be a file, an array, peripheral device or socket.

### InputStream:

Java application uses an input stream to read data from a source, it may be a file, an array, peripheral device or socket.

**Output Stream class:** OutputStream class is an abstract class. It is the superclass of all classes representing an output stream of bytes. An output stream accepts output bytes and sends them to some sink.

**Reading data from keyboard:** There are many ways to read data from the keyboard. For example:

- InputStreamReader
- Console
- Scanner
- DataInputStream etc.

**InputStreamReader class:** InputStreamReader class can be used to read data from keyboard. It performs two tasks:

- connects to input stream of keyboard
- converts the byte-oriented stream into character-oriented stream

The Java Console class is used to get input from console. It provides methods to read text and password. If you read password using Console class, it will not be displayed to the user. The java.io.Console class is attached with system console internally.

## 5. MATHEMATICAL MODELS

Let, S be the System Such that,

$A = \{ S, E, I, O, F, DD, NDD, \text{success}, \text{failure} \}$

Where,

S= Start state,

E= End State,

I= Set of Input

O= Set of Out put

F =Set of Function

DD=Deterministic Data

NDD=Non Deterministic Data

Success Case: It is the case when all the inputs are given by system are entered correctly.

Failure Case: It is the case when the input does not match the validation Criteria.

## 6. CONCLUSION

A web application is created to check the plagiarism in the given text paragraph written/ copied in the text box.

## 7. REFERENCES

[1] HASSAN GOMAA, Software Modeling and Design, Cambridge university Press, 2011, ISBN-13 978-1-107-44735-6.

[2] Erich Gamma, Richard Helm, Ralph Johnson ,John Vlissides, Design patterns Elements of Reusable Object-Oriented Software

[3] Srinivasan Desikan, "Software Testing Principals and practices", Pearson Publication ISBN-13 978-8-17-758295-6

#### **8. FAQ'S**

1. What is COMET?
2. Draw the suitable UML Diagrams.

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