Department of Computer Science and Engineering
Academic Year 2022 – 2023 (Odd Semester)
Degree, Semester & Branch: V Semester B.E. ECE 'B'
Course Code & Title: CS8392 Object Oriented Programming
Name of the Faculty member (s): Dr.K.Vivekrabinson, AP/CSE

Innovative Practice Description

- **Unit / Topic: Unit II / Strings**
- **Course Outcome:** CO2
- **Topic Learning Outcome:** TLO5
- **Activity Chosen: Code Completion**
- **Justification:**
  Strings is an important concept in java which has many built-in methods for processing. In order to remember and recollect how to apply these methods and also to familiarize the syntax, a code completion activity is given to the students.
- **Time Allotted for the Activity:** 15 Minutes
- **Details of the Implementation:**
  Students were asked to form a team of two members for this activity. In this activity, each team was given with a Java program which that contains a set of partially completed code and a task to complete the code. The partial code and task are related to the string methods such as split, replace, testing string equality, string transformation.

  The activity was conducted during the last 15 minutes of the class. The students have to think and identify the methods to complete the required task in the given code and it is shown in Fig 1. And also, the students have to find the output of the code after completion. After completing the code, every student from a team discussed their code and the findings with all other team members. The completed code snippets are shown in Fig:2, 3 and 4.

- **CO – PO / PSO mapping:**

CO	PO1	PO2	PO3	PO8	PO9	PO10	PSO1	PSO2	PSO3
CO2	3	3	2	1	2	2	2	1	1

(1 – Low 2 – Moderate 3 – High)

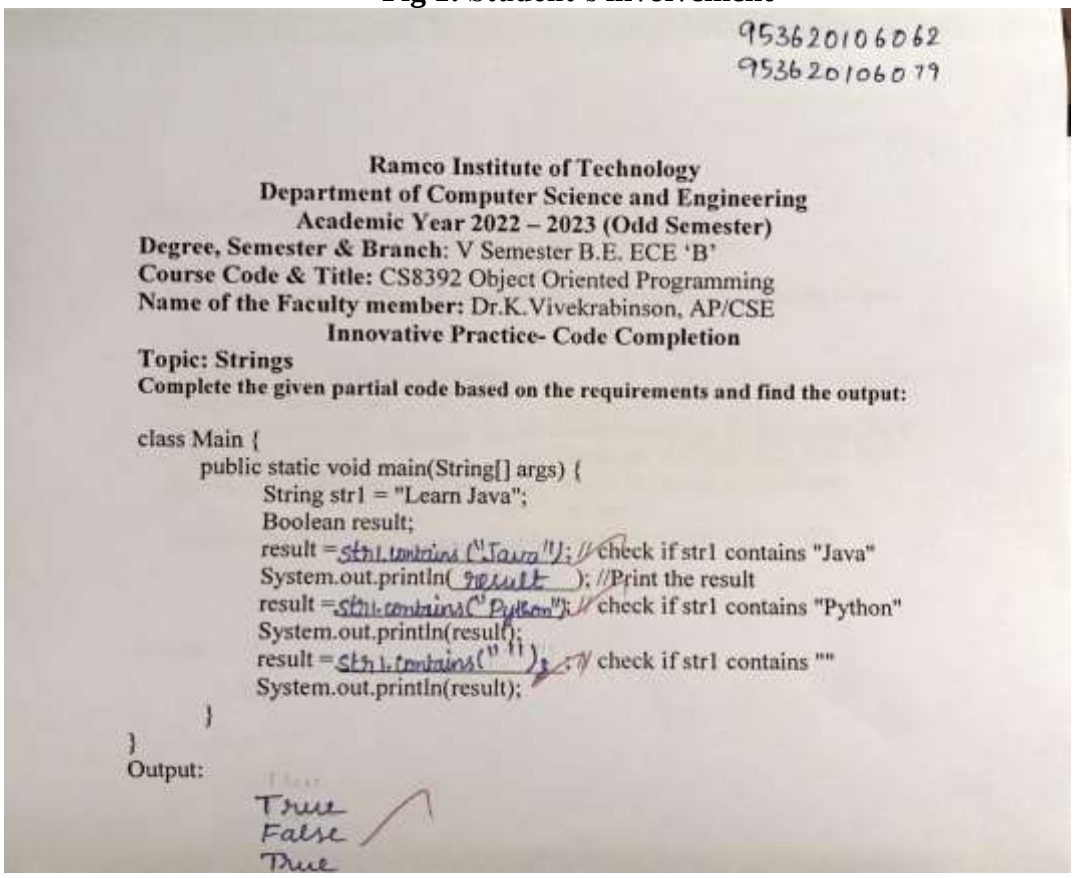
- **PO / PSO mapped:**

Innovative practice	PO1	PO2	PO3	PO9	PO10	PSO1	PSO3
	3	3	3	2	2	1	1
Justification for correlation	The students apply the	The students evaluate	The students	The students demonstrate	The students discuss	The students apply the	The students use these

	knowledge of strings	given problem statements and identify methods	find the solutions for the given task.	problem-solving skills as a team.	the solutions with others.	string concepts to solve problems	concepts in product design

- **Images / Screenshot of the practice:**

Fig 1: Student's involvement



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Ramco Institute of Technology
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Innovative Practice- Code Completion

Topic: Strings

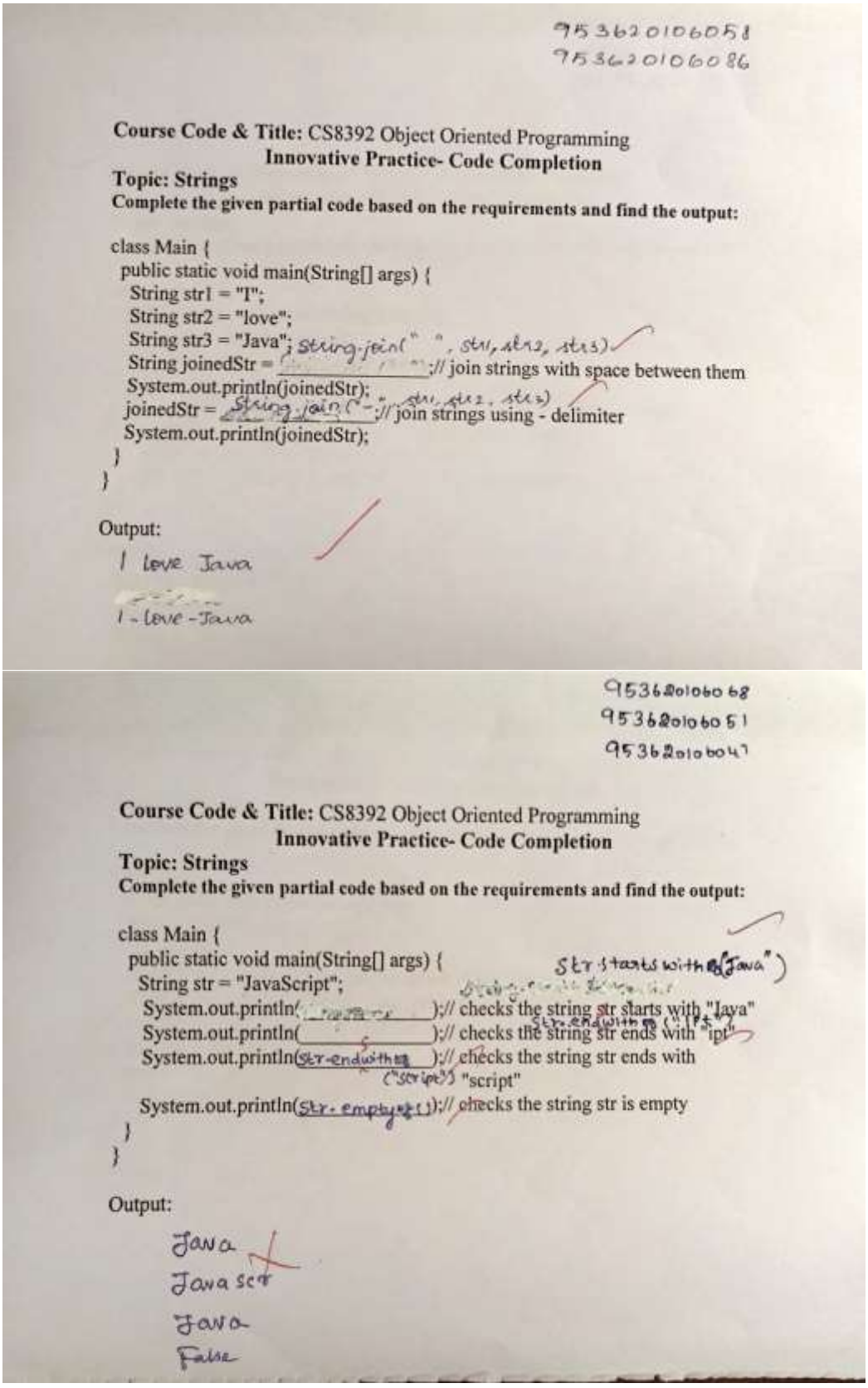
Complete the given partial code based on the requirements and find the output:

```
class Main {
    public static void main(String[] args) {
        String str1 = "Learn Java";
        Boolean result;
        result = str1.contains("Java"); // check if str1 contains "Java"
        System.out.println(result); //Print the result
        result = str1.contains("Python"); // check if str1 contains "Python"
        System.out.println(result);
        result = str1.contains(""); // check if str1 contains ""
        System.out.println(result);
    }
}
```

Output:

True
False
True

Fig 2: Sample Code completion sheet



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Innovative Practice- Code Completion

Topic: Strings

Complete the given partial code based on the requirements and find the output:

```
class Main {
 public static void main(String[] args) {
  String str1 = "I";
  String str2 = "love";
  String str3 = "Java";
  String joinedStr = String.join(" ", str1, str2, str3);// join strings with space between them
  System.out.println(joinedStr);
  joinedStr = String.join("-", str1, str2, str3);// join strings using - delimiter
  System.out.println(joinedStr);
 }
}
```

Output:

I love Java

I-love-Java

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Innovative Practice- Code Completion

Topic: Strings

Complete the given partial code based on the requirements and find the output:

```
class Main {
 public static void main(String[] args) {
  String str = "JavaScript";
  System.out.println(str.startsWith("Java"));// checks the string str starts with "Java"
  System.out.println(str.endsWith("ipt"));// checks the string str ends with "ipt"
  System.out.println(str.endsWith("Script"));// checks the string str ends with "script"
  System.out.println(str.isEmpty());// checks the string str is empty
 }
}
```

Output:

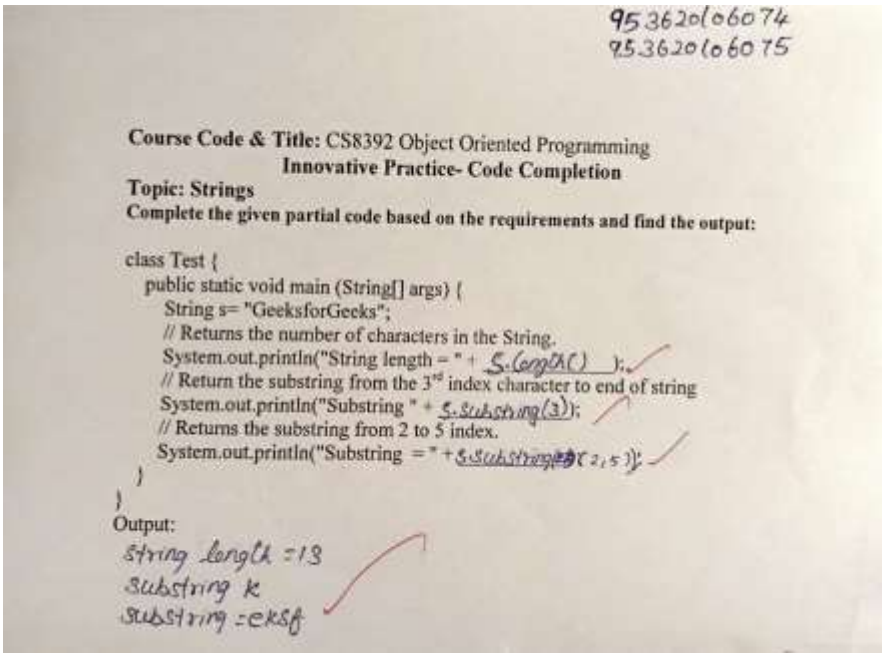
Java

Java scr

Java-

False

Fig 3: Sample Code completion sheet



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Innovative Practice- Code Completion

Topic: Strings

Complete the given partial code based on the requirements and find the output:

```
class Test {
   public static void main (String[] args) {
      String s= "GeeksforGeeks";
      // Returns the number of characters in the String.
      System.out.println("String length = " + s.length() );
      // Return the substring from the 3rd index character to end of string
      System.out.println("Substring " + s.substring(3));
      // Returns the substring from 2 to 5 index.
      System.out.println("Substring =" + s.substring(2,5));
   }
}
```

Output:

String length =13
Substring k
Substring =eksf

Fig 4:Sample Code completion sheet

- **Reflective Critique:**
  - ***Feedback of practice from students and other stakeholders:***
    The completed code was corrected during the hour itself and the following observations were made.
    - Some of the students find very easy to identify the method to apply and complete the code easily.
    - Some of them need more clarification on the syntax of various string methods.
    - Additional examples shall be given them to make understand the concept easily.
  - ***Benefit of the practice:*** (E.g.: Outcome attainment would have increased due to innovative practice over conventional practice)
    This activity was very useful to identify whether the students understand the string methods. Through this activity, the students are able to identify the places where the string methods can be applied and also the familiarize with the syntax.
  - ***Challenges faced in implementation:***
    - Some of the students feel difficult to find out which string methods will complete the given task.
    - Some of them feel difficult to find the output of string methods since they were not familiar with the syntax.

References:

- https://www.ritrjpm.ac.in/images/computer-science/24_CS8391_CodeCompletion.pdf
- https://www.ritrjpm.ac.in/images/computer-science/18_EC8393_Codedebug.pdf

Signature of Faculty Member ***HOD***