



Dr. Vishwanath Karad  
**MIT WORLD PEACE  
UNIVERSITY** | PUNE  
TECHNOLOGY, RESEARCH, SOCIAL INNOVATION & PARTNERSHIP

## **School of Computer Engineering & Technology**

### **SSC lab -Assignment No.2**

**Date of Submission:** 2nd week Feb 2024,(respective lab turn)

**Assignment Title:** Design of Pass 2 of Two Pass Assembler.

**Aim:** Design suitable data structures and implement Pass 2 of 2 Pass Assembler for pseudo machine.

**Objective:** Design suitable data structures and implement Pass 2 of 2 Pass Assembler for pseudo machine. Subset should consist of a few instructions from each category & few assembler directives.

#### **Theory:**

##### **1. Design Specification of an Assembler:**

###### **Synthesis Phase**

##### **2. Design of a Two Pass Assembler:**

###### **Algorithm for Pass 2**

##### **3. Error Listing & Error Handling**

**Input:** Symbol Table, Intermediate Code.(from Pass 1 of 2 Pass Assembler)

**Output:** Machine translation (Object Program) of the Source Assembly Language program taken in Assignment No. 1

FAQs:

Q.1 How is a single pass assembler different from 2 pass assembler? What is backpatching and why is it required?

Q.2 Explain Variant 1 and Variant 2 with example.

**Conclusion:**

**Platform:** JAVA