

```

1  package assembler;
2
3  import java.io.*;
4  import java.util.*;
5
6  public class Pass2 {
7      public static void main(String[] args) throws IOException {
8          BufferedReader inter = new BufferedReader(new
9  FileReader("intermediate.txt"));
10         BufferedReader symtab = new BufferedReader(new FileReader("symtab.txt"));
11         BufferedWriter target = new BufferedWriter(new FileWriter("target.txt"));
12
13         // Load symbol table into hashmap
14         Map<String, String> symTable = new HashMap<>();
15         String line;
16         while ((line = symtab.readLine()) != null) {
17             String[] parts = line.trim().split("\t");
18             if (parts.length == 2)
19                 symTable.put(parts[0], parts[1]);
20         }
21
22         // Instruction codes and registers
23         List<String> inst = Arrays.asList("STOP", "ADD", "SUB", "MULT", "MOVER",
24 "MOVEM", "COMP", "BC", "DIV", "READ", "PRINT");
25         List<String> reg = Arrays.asList("AREG", "BREG", "CREG", "DREG");
26
27         while ((line = inter.readLine()) != null) {
28             String[] parts = line.trim().split("\t");
29             String lc = parts[0];
30             String opcode = parts[1];
31             String operand1 = parts.length > 2 ? parts[2] : "";
32             String operand2 = parts.length > 3 ? parts[3] : "";
33
34             if (opcode.equals("START") || opcode.equals("END")) continue;
35             if (opcode.equals("DS")) continue;
36             if (opcode.equals("DC")) {
37                 target.write(lc + "\t" + "00\t00\t" + operand1 + "\n");
38                 continue;
39             }
40
41             int opCodeVal = inst.indexOf(opcode);
42             int regCodeVal = reg.indexOf(operand1);
43
44             String address = symTable.getOrDefault(operand2, "000");
45
46             target.write(lc + "\t" + String.format("%02d", opCodeVal) + "\t" +
47                 String.format("%02d", regCodeVal) + "\t" + address + "\n");
48         }
49     }
50 }

```

```
48         inter.close();
49         symtab.close();
50         target.close();
51
52         System.out.println("Pass-II complete. Target code generated in target.txt.");
53     }
54 }
55
```