

```
1 package assembler;
2
3 import java.io.*;
4
5 public class Pass1 {
6     public static void main(String[] args) throws IOException {
7         String[][] a = {
8             {"", "START", "101", ""},
9             {"", "MOVER", "BREG", "ONE"},,
10            {"AGAIN", "MULT", "BREG", "TERM"},,
11            {"", "MOVER", "CREG", "TERM"},,
12            {"", "ADD", "CREG", "N"},,
13            {"", "MOVEM", "CREG", "TERM"},,
14            {"N", "DS", "2", ""},
15            {"RESULT", "DS", "2", ""},
16            {"ONE", "DC", "1", ""},
17            {"TERM", "DS", "1", ""},
18            {"", "END", "", ""}
19        };
20
21         int lc = Integer.parseInt(a[0][2]);
22
23         // Symbol table
24         String[][] st = new String[10][2];
25         int symCnt = 0;
26
27         BufferedWriter symtab = new BufferedWriter(new FileWriter("symtab.txt"));
28         BufferedWriter inter = new BufferedWriter(new
FileWriter("intermediate.txt"));
29
30         for (int i = 1; i < a.length; i++) {
31             if (!a[i][0].equals("")) {
32                 st[symCnt][0] = a[i][0];
33                 st[symCnt][1] = Integer.toString(lc);
34                 symtab.write(a[i][0] + "\t" + lc + "\n");
35                 symCnt++;
36             }
37
38             inter.write(lc + "\t" + a[i][1] + "\t" + a[i][2] + "\t" + a[i][3] +
"\n");
39
40             if (a[i][1].equals("DS")) {
41                 lc += Integer.parseInt(a[i][2]);
42             } else {
43                 lc++;
44             }
45         }
46
47         symtab.close();
```

```
48         inter.close();
49
50     System.out.println("Pass-I complete. Symbol Table and Intermediate Code
51     generated.");
52 }
```