```java
1  import java.io.*;
2  import java.nio.file.Files;
3  import java.nio.file.Paths;
4  import java.util.Hashtable;
5
6  public class MacroPass2 {
7      public static void main(String[] args) throws
   IOException {
8
9          Hashtable<String, String> ala = new Hashtable
   <String, String>();
10         Hashtable<String, String> mnt = new Hashtable
   <String, String>();
11
12         String inputfilename = "F:\\T9\\SSC\\Assi 4\\
   src\\Output.txt";        //Input File
13         FileReader fr1 = new FileReader(inputfilename
   );
14         BufferedReader br1 = new BufferedReader(fr1);
15
16         String MNT = "F:\\T9\\SSC\\Assi 4\\src\\MNT.
   txt";        //Input File MNT
17         FileReader fr2 = new FileReader(MNT);
18         BufferedReader br2 = new BufferedReader(fr2);
19
20         String MDT = "F:\\T9\\SSC\\Assi 4\\src\\MDT.
   txt";        //Input File MDT
21         FileReader fr3 = new FileReader(MDT);
22         BufferedReader br3 = new BufferedReader(fr3);
23
24         String ALA = "F:\\T9\\SSC\\Assi 4\\src\\ALA.
   txt";        //Input File ALA
25         FileReader fr4 = new FileReader(ALA);
26         BufferedReader br4 = new BufferedReader(fr4);
27
28         String f1 = "F:\\T9\\SSC\\Assi 4\\src\\
   ExpandedCode.txt";
29         FileWriter fw1 = new FileWriter(f1);
30         BufferedWriter bw1 = new BufferedWriter(fw1);
31
32         String f2 = "F:\\T9\\SSC\\Assi 4\\src\\
   UpdatedALA.txt";
33         FileWriter fw2 = new FileWriter(f2);
34         BufferedWriter bw2 = new BufferedWriter(fw2);
```

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35
36              LineNumberReader lineNumberReader =
37                      new LineNumberReader(new FileReader("
    F:\\T9\\SSC\\Assi 4\\src\\MDT.txt"));
38
39          String sCurrentLine,s0,s1,s2;
40          boolean macro=false;
41          int line_number=0;
42
43
44          while ((sCurrentLine = br4.readLine()) !=
    null){
45              s0 = sCurrentLine.split(" |\\,")[1];
46              s1 = sCurrentLine.split(" |\\,")[0];
47              ala.put(s0,s1);
48          }
49
50          while ((sCurrentLine = br2.readLine()) !=
    null){
51              s0 = sCurrentLine.split(" |\\,")[1];
52              s1 = sCurrentLine.split(" |\\,")[2];
53              mnt.put(s0,s1);
54          }
55
56          while ((sCurrentLine = br1.readLine()) !=
    null){
57              s0 = sCurrentLine.split(" |\\,")[0];
58              s1 = Files.readAllLines(Paths.get("F:\\T9
    \\SSC\\Assi 4\\src\\MDT.txt")).get(line_number);
59              s1 = s1.split(" |\\,")[1];
60
61              if (mnt.containsKey(s0)){
62                  macro = true;
63                  line_number = (Integer.parseInt(mnt.
    get(s0)) - 1);
64
65                  for (int i = 0; i < (sCurrentLine.
    split(" |\\,").length); i++){
66
67                      String mdt_words = Files.
    readAllLines(Paths.get("F:\\T9\\SSC\\Assi 4\\src\\MDT
    .txt")).get(line_number);
68                      mdt_words = mdt_words.split(" |\\
    ,")[i+1];
```

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69
70                          String output_word =
      sCurrentLine.split(" |\\,")[i];
71
72                          if(mnt.containsKey(mdt_words
      ) != true){
73                              String parameter = ala.get(
      mdt_words);
74                              ala.remove(mdt_words);
75                              ala.put(parameter,
      output_word);
76                          }
77
78                      }
79                  line_number++;
80
81              while (macro == true){
82                  String mdt_line = Files.
      readAllLines(Paths.get("F:\\T9\\SSC\\Assi 4\\src\\
      MDT.txt")).get(line_number);
83                  s1 = mdt_line.split(" |\\,")[1];
84                  if(s1.equals("MEND")){
85                      macro = false;
86                      line_number = 0;
87                  }
88                  else{
89                      for (int i = 1; i < (
      mdt_line.split(" |\\,").length); i++){
90                          String temp = mdt_line.
      split(" |\\,")[i];
91                          if(ala.containsKey(temp
      )){
92                              bw1.write(ala.get(
      temp)+ " ");
93                          }
94                          else {
95                              bw1.write(temp+" ");
96                          }
97                      }
98                  bw1.write("\n");
99                  line_number++;
100                 }
101             }
102         }
```

```java
103
104                else {
105                    bw1.write(sCurrentLine+ "\n");
106                }
107
108        }
109
110        String ALA2 = "F:\\T9\\SSC\\Assi 4\\src\\ALA.txt";
111        FileReader fr5 = new FileReader(ALA2);
112        BufferedReader br5 = new BufferedReader(fr5);
113
114        while ((sCurrentLine = br5.readLine()) != null){
115            s0 = sCurrentLine.split(" |\\,")[0];
116            s1 = sCurrentLine.split(" |\\,")[1];
117
118            fw2.write(s0 + " " + s1 + " " + ala.get(s0) + "\n");
119        }
120
121        bw1.close();
122        bw2.close();
123    }
124 }
125
```