import java.io.\*;

import java.util.\*;

class intWrapper {

public int value;

public intWrapper(int value) {

this.value = value;

}

}

class Pass2 {

public static void main(String[] args) {

List<String> MDT = new ArrayList<>();

Map<String, Integer> MNT = new HashMap<>();

List<String> ALA = new ArrayList<>();

Map<Integer, String> actualALA = new HashMap<>();

intWrapper actualala = new intWrapper(1);

boolean canwrite = true;

try {

Scanner mdtScanner = new Scanner(new File("MDT.txt"));

while (mdtScanner.hasNextLine()) {

MDT.add(mdtScanner.nextLine().substring(2));

}

mdtScanner.close();

} catch (FileNotFoundException e) {

System.err.println("Error: MDT file not found.");

e.printStackTrace();

}

try {

Scanner mntScanner = new Scanner(new File("MNT.txt"));

while (mntScanner.hasNextLine()) {

String[] mntEntry = mntScanner.nextLine().trim().split("\\s+");

MNT.put(mntEntry[1], Integer.parseInt(mntEntry[2]));

}

mntScanner.close();

} catch (FileNotFoundException e) {

System.err.println("Error: MNT file not found.");

e.printStackTrace();

}

try {

Scanner alaScanner = new Scanner(new File("ALA.txt"));

while (alaScanner.hasNextLine()) {

String[] alaEntry = alaScanner.nextLine().split("\\s+");

ALA.add(alaEntry[1]);

}

alaScanner.close();

} catch (FileNotFoundException e) {

System.err.println("Error: ALA file not found.");

e.printStackTrace();

}

try (BufferedWriter outputWriter = new BufferedWriter(new FileWriter("macro\_expandedcode.txt"))) {

Scanner scanner = new Scanner(new File("macro\_intermediate.txt"));

while (scanner.hasNextLine()) {

String line = scanner.nextLine().trim();

if (line.isEmpty()) continue;

String[] tokens = line.split("[,\\s]+");

for (int j=0; j<tokens.length; j++) {

if (MNT.containsKey(tokens[j])) {

int mdtIndex = MNT.get(tokens[j]);

for (int i = 0; i < tokens.length; i++) {

if (!MNT.containsKey(tokens[i])) {

actualALA.put(actualala.value, tokens[i]);

actualala.value++;

}

}

for (int i = mdtIndex; i < MDT.size() - 1 && !MDT.get(i).equalsIgnoreCase("MEND"); i++) {

String[] mdtTokens = MDT.get(i).split("[,\\s]+");

StringBuilder expandedLine = new StringBuilder();

for (String mdtToken : mdtTokens) {

if (mdtToken.startsWith("#")) {

int argIndex = Integer.parseInt(mdtToken.substring(1)) - 1;

expandedLine.append(actualALA.get(argIndex + 1)).append(" ");

} else {

expandedLine.append(mdtToken).append(" ");

}

}output writer.write("+ ")

outputWriter.write(expandedLine.toString().trim());

outputWriter.newLine();

}

}

else {

continue;

}

}

for (int j=0; j<tokens.length; j++) {

if (MNT.containsKey(tokens[j])) {

canwrite = false;

break;

}

canwrite = true;

}

if (canwrite) {

outputWriter.write(line);

outputWriter.newLine();

}

actualala.value = 1;

}

scanner.close();

} catch (FileNotFoundException e) {

System.err.println("Error: Intermediate file not found.");

e.printStackTrace();

} catch (IOException e) {

e.printStackTrace();

}

}

}