JAVA CODE :

```java
import java.util.*;

import java.io.*;


public class macro

{

    public static void main(String args[])

    {

        BufferedReader br;

        OutputStream oo;

        String input = null;

        String tt = null;

        String arg = null;

        String macroTokens = null;

        String mnt[] = new String[20];

        String mdt[] = new String[20];

        String ala[] = new String[20];

        int macroIdx[] = new int[10];

        int mCount = 0,argCount=0;

        int middleCount = 0;

        int index = 1;

        int macroEnc = 0;


        try

        {

            br = new BufferedReader(new FileReader("input.txt"));

            File f3 = new File("mnt.txt");

            File f4 = new File("mdt.txt");

            File f5 = new File("adt.txt");

            PrintWriter p3 = new PrintWriter(f3);

            PrintWriter p4 = new PrintWriter(f4);
```

```java
PrintWriter p5 = new PrintWriter(f5);

while((input=br.readLine())!=null)
{
    StringTokenizer st = new StringTokenizer(input," ");
    tt = st.nextToken();
    if(tt.equals("MACRO"))
    {
        macroEnc = 1;
        tt = st.nextToken();
        mnt[mCount] = tt;
        macroIdx[mCount] = index;
        p3.println(mnt[mCount]+"\t"+macroIdx[mCount]);
        p4.println(mnt[mCount]);
        p5.println(mnt[mCount]);
        mCount++;

        tt=st.nextToken();
        StringTokenizer t = new StringTokenizer(tt,",");
        while(t.hasMoreTokens())
        {
            arg = t.nextToken();
            if(arg.charAt(0)=='&')
            {
                ala[argCount] = arg;
                p5.println(ala[argCount]);
                argCount++;
            }
        }
    }
    else
```

```java
        {
            if(macroEnc==1)
            {
                if(input.equals("MEND"))
                {
                    macroEnc=0;
                    p4.println("MEND");
                }
                else
                {
                    StringTokenizer t = new StringTokenizer(input," ");
                    while(t.hasMoreTokens())
                    {
                        macroTokens = t.nextToken();
                        for(int i=0;i<argCount;i++)
                        {
                            if(macroTokens.charAt(0)=='&' && macroTokens.equals(ala[i])) p4.println("ALA"+i);
                        }

                        if(macroTokens.charAt(0)=='&'){}
                        else p4.print(macroTokens+" ");

                        if(!t.hasMoreTokens()) p4.println();
                    }
                }
            }
            index++;
        }
        p3.close();
        p4.close();
```

```
        p5.close();

    }

    catch(Exception e)

    {

        e.printStackTrace();

    }

  }

}
```

Initial.txt

```
MACRO INCR1 &FIRST,&SECOND

ADD AREG &FIRST

LDA BREG &SECOND

MEND

MACRO INCR2 &ARG1,&ARG2

MOV CREG &ARG1

SUB DREG &ARG2

MEND

START 100

MOV AREG A

MOV BREG B

INCR1

MOV CREG =2

MOV DREG =3

ADD AREG BREG

A DC 05

B DS 03

END
```

mnt.txt

```
INCR1   1

INCR2   5
```

mdt.txt

INCR1

ADD AREG ALA0

LDA BREG ALA1

MEND

INCR2

MOV CREG ALA2

SUB DREG ALA3

MEND

ala.txt

INCR1

&FIRST

&SECOND

INCR2

&ARG1

&ARG2