

```

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[10];
        String mdt[]=new String[20];
        String AR[]=new String[20];
        int macroindex[]=new int[10];
        int mcount=0,arg_count=0;
        int middlecount=0;
        int index=1;
        int macro_enc=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);
            PrintWriter p5 = new PrintWriter(f5);

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while ((input = br.readLine()) != null)
{
    StringTokenizer st = new StringTokenizer(input, " ");
    tt=st.nextToken();
    if(tt.equals("MACRO"))
    {
        macro_enc=1;
        tt=st.nextToken();
        mnt[mcount]=tt;
        macroindex[mcount]=index;
        p3.println(mnt[mcount]+"\\t"+macroindex[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)=='&')
            {
                AR[arg_count]=arg;
                p5.println(AR[arg_count]);
                arg_count++;
            }
        }
    }

    else
    {

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        if(macro_enc==1)
    {
        if(input.equals("MEND"))
        {
            macro_enc=0;
            p4.println("MEND");
        }
        else
        {
            StringTokenizer t=new StringTokenizer(input," ");
            while(t.hasMoreTokens())
            {
                macroTokens=t.nextToken();
                for(int i=0;i<arg_count;i++)
                {
                    if(macroTokens.charAt(0)=='&' && macroTokens.equals(AR[i]))
                    {
                        p4.print("AR"+i);
                    }
                }
                if(macroTokens.charAt(0)=='&'){}
                else
            {
                p4.print(macroTokens+" ");
            }
            if(!t.hasMoreTokens())
            {
                p4.println();
            }
        }
    }

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        }  
    }  
  
    }  
    }  
    index++;  
}  
p3.close();  
p4.close();  
p5.close();  
  
}  
catch(Exception e)  
{  
    e.printStackTrace();  
}  
}  
  
}
```

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

Open ▾ 

mnt.txt  
~/Downloads

```
1 INCR1 1
2 INCR2 5
```

Open ▾ 

mdt.txt  
~/Downloads

```
1 INCR1
2 ADD AREG AR0
3 LDA BREG AR1
4 MEND
5 INCR2
6 MOV CREG AR2
7 SUB DREG AR3
8 MEND
```

Open ▾ 

adt.txt  
~/Downloads

```
1 INCR1
2 &FIRST
3 &SECOND
4 INCR2
5 &ARG1
6 &ARG2
```