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TECOC64
Subject: SPOS

Assignment No.2

Input:

```
input.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
```

Code:

```
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);
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
    {
        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++)
                    {

```

```

macroTokens.equals(AR[i]))
        if(macroTokens.charAt(0)=='&' &&
        {
            p4.print("AR"+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();
}

}

```

OUTPUT:

MNT.TXT

INCR1 1

INCR2 5

MDT.TXT

INCR1

ADD AREG AR0

LDA BREG AR1

MEND

INCR2

```
MOV CREG AR2
SUB DREG AR3
MEND
```

```
ADT.TXT
INCR1
&FIRST
&SECOND
INCR2
&ARG1
&ARG2
```