

Name : Aakash A. Joshi

Roll no. : 0077

Subject : SPOS

Class : TE Computer

Batch: T4

Assignment no. 3(Macro pass 1)

Code:

```
import java.util.*;
import java.io.*;
public class macro
{
    public static void main(String args[])
    {
        BufferedReader br;
        BufferedReader abc;
        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("apt.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++)
                {
                    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();
            }
        }
    }
}

```

```

    }
    }
    }
    }
    index++;
}
p3.close();
p4.close();
p5.close();
abc=new BufferedReader(new FileReader("mnt.txt"));
while ((input = br.readLine()) != null)
{
    System.out.println(abc);
}

}

catch(Exception e)
{
    e.printStackTrace();
}

}
}

```

Output:

```

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
INCR2
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 AR0
LDA BREG AR1
MEND
INCR2
MOV CREG AR2
SUB DREG AR3
MEND

Apt.txt
INCR1
&FIRST
&SECOND
INCR2
&ARG1
&ARG2

