**ASSIGNMENT A3**

**AIM:** Implementation of pass 1 for macro

Code:

import java.io.\*;

public class pass1 {

public static void main(String[] args) throws IOException {

int MNTC =1;

String mdtindexm;

int mdtindex=1; // MDT\_Index

int alaindex=1; //ALA Index

String rr;

String line;

String kl;

int alatabcounter=1; // ALA table Counter

int skipcounter=0; //Skip Counter

try {

InputStream fis = new FileInputStream("Input.txt");

InputStreamReader is = new InputStreamReader(fis);

BufferedReader buffReader = new BufferedReader(is);

try {

OutputStream ois = new FileOutputStream("MNT.txt");

OutputStreamWriter os = new OutputStreamWriter(ois);

BufferedWriter buffWriter = new BufferedWriter(os);

OutputStream ois1 = new FileOutputStream("ALA.txt");

OutputStreamWriter os1 = new OutputStreamWriter(ois1);

BufferedWriter buffWriter1 = new BufferedWriter(os1);

OutputStream ois2 = new FileOutputStream("MDT.txt");

OutputStreamWriter os2 = new OutputStreamWriter(ois2);

BufferedWriter buffWriter2 = new BufferedWriter(os2);

while((line=buffReader.readLine())!=null)

{

if(line.contains("MACRO"))

{

String[] m=line.split(" ");

line=buffReader.readLine();

String[] mq=line.split(" ");

// Writing into MNT table

buffWriter.write(String.valueOf(MNTC));

buffWriter.write(" ");

buffWriter.write(mq[0]);

buffWriter.write(" ");

buffWriter.write(String.valueOf(mdtindex));

buffWriter.newLine();

MNTC=MNTC+1;

++mdtindex;

// Writing into ALA table

buffWriter1.write("ALA Table "+alatabcounter);

++alatabcounter;

buffWriter1.newLine();

int ee=1;

for(int i=1;i<mq.length;i++)

{

if(!mq[i].equals(","))

{

buffWriter1.write(String.valueOf(ee));

buffWriter1.write(" ");

buffWriter1.write(mq[i]);

buffWriter1.newLine();

++ee;

}

}

while(!(line=buffReader.readLine()).equals("MEND"))

{

++mdtindex;

}

}

}

buffReader.close();

buffWriter.close();

buffWriter1.close();

InputStream fis2 = new FileInputStream("Input.txt");

InputStreamReader is2 = new InputStreamReader(fis2);

BufferedReader buffReader2 = new BufferedReader(is2);

while((line=buffReader2.readLine())!=null)

{

if(line.equals("MACRO"))

{

++skipcounter;

line=buffReader2.readLine();

while(!(kl=buffReader2.readLine()).equals("MEND"))

{

InputStream fis1 = new FileInputStream("ALA.txt");

InputStreamReader is1 = new InputStreamReader(fis1);

BufferedReader buffReader1 = new BufferedReader(is1);

String[] mw=kl.split(" ");

buffWriter2.write(String.valueOf(alaindex));

buffWriter2.write(" ");

// Writing into MDT table

qqq:

while((mdtindexm=buffReader1.readLine())!=null)

{

String[] mqq=mdtindexm.split(" ");

if(skipcounter==1)

{

if(mqq[1].equals(mw[3]))

{

for(int i=0;i<((mw.length)-1);i++)

{

buffWriter2.write(mw[i]);

buffWriter2.write(" ");

}

rr=mqq[0];

buffWriter2.write("#");

buffWriter2.write(rr);

buffWriter2.write(" ");

break qqq;

}

}

else {

if(mdtindexm.contains("ALA Table "+skipcounter))

{

--skipcounter;

}

}

}

++alaindex;

buffWriter2.newLine();

buffReader1.close();

}

buffWriter2.write(String.valueOf(alaindex));

buffWriter2.write(" ");

++alaindex;

buffWriter2.write("MEND");

buffWriter2.newLine();

}

}

buffWriter2.close();

buffReader2.close();

}catch(FileNotFoundException e)

{

System.out.println(e);

}

}catch(Exception e)

{

System.out.println(e);

}

}

}

**INPUT:**

MACRO

INCR &ARG1 , &ARG2 , &ARG3

MOVEM AREG , &ARG1

MOVER AREG , &ARG2

ADD BREG , &ARG3

MEND

MACRO

ADDS &ARG0 , &ARG1

ADD AREG , &ARG1

MEND

MACRO

SUB &ARG5

ADD BREG , &ARG5

MEND

OUTPUT:

ALA TABLE:

ALA Table 1

1 &ARG1

2 &ARG2

3 &ARG3

ALA Table 2

1 &ARG0

2 &ARG1

ALA Table 3

1 &ARG5

MDT:

1 MOVEM AREG , #1

2 MOVER AREG , #2

3 ADD BREG , #3

4 MEND

5 ADD AREG , #2

6 MEND

7 ADD BREG , #1

8 MEND

MNT:

1 INCR 1

2 ADDS 5

3 SUB 7