/pr2

Akhilesh TE B 55

/

class MNT{

int index;

String name;

int def\_index;

MNT(int i , String a , int j){

index = i;

name = a;

def\_index = j;

}

}

class MDT{

int index;

String def[];

MDT(){

index = 0;

def = new String[4];

}

void print(){

if(def[0] != null)

System.out.print(def[0]+" ");

if(def[1] != null)

System.out.print(def[1]+" ");

if(def[2] != null)

System.out.print(def[2]+" ");

if(def[3] != null)

System.out.print(def[3]+" ");

System.out.println();

}

}

public class pass1macro{

public static void main(String args[]){

String input[][]= {{"MACRO","INCR","&A","&B","&REG"},

{null,"MOVER","&REG","&A",null},

{null,"ADDS","&A","&B",null},

{null,"MOVEM","&REG","&A",null},

{"MEND",null,null,null,null},

{"MACRO","ADDS","&F","&S",null},

{null,"MOVER","AREG","&F",null},

{null,"ADD","AREG","&S",null},

{null,"MOVEM","AREG","&S",null},

{null,"WRITE","&S",null,null},

{"MEND",null,null,null,null},

{"MACRO","SUBS","&F","&S",null},{null,"MOVER","BREG","&F",null},

{null,"SUB","BREG","&S",null},

{null,"MOVEM","BREG","&S",null},

{null,"WRITE","&S",null,null},

{"MEND",null,null,null,null},

{null,"START",null,"200",null},

{null,"READ","N1",null,null},

{null,"READ","N2",null,null},

{null,"ADDS","N1","N2",null},

{null,"SUBS","N1","N2",null},

{null,"INCR","N1","N2","DREG"},

{null,"STOP",null,null,null},

{"N1","DS","2",null,null},

{"N2","DS","2",null,null},

{null,"END",null,null,null}};

MNT n[] = new MNT[20];

MDT d[] = new MDT[20];

int i=0,nc=0,dc=0;

String arr1,arr2,arr3,arr4,arr5;

while(i < input.length){

arr1 = null;

arr2 = null;

arr3 = null;

arr4 = null;

arr5 = null;

if(input[i][0] != null)

arr1 = input[i][0];

if(arr1 == null)

arr1 = "null";

if(arr1.equals("MACRO")){

if(input[i][1] != null)

arr2 = input[i][1];

if(input[i][2] != null)

arr3 = input[i][2];

if(input[i][3] != null)

arr4 = input[i][3];

if(input[i][4] != null)

arr5 = input[i][4];

n[nc] = new MNT(nc,arr2,dc);

nc++;

while(!arr1.equals("MEND")){

d[dc] = new MDT();

d[dc].index = dc;

d[dc].def[0] = arr2;

if(!arr1.equals("MACRO")){

if(arr3 != null){

if(arr3.equals(d[n[nc-

1].def\_index].def[1]))arr3 = "#1";

else if(arr3.equals(d[n[nc-

1].def\_index].def[2]))

arr3 = "#2";

else if(arr3.equals(d[n[nc-

1].def\_index].def[3]))

arr3 = "#3";

}

if(arr4 != null){

if(arr4.equals(d[n[nc-

1].def\_index].def[1]))

arr4 = "#1";

else if(arr4.equals(d[n[nc-

1].def\_index].def[2]))

arr4 = "#2";

else if(arr4.equals(d[n[nc-

1].def\_index].def[3]))

arr4 = "#3";

}

if(arr5 != null){

if(arr5.equals(d[n[nc-

1].def\_index].def[1]))

arr5 = "#1";

else if(arr5.equals(d[n[nc-

1].def\_index].def[2]))

arr5 = "#2";

else if(arr5.equals(d[n[nc-

1].def\_index].def[3]))

arr5 = "#3";

}

}

if(arr3 != null)

d[dc].def[1] = arr3;

if(arr4 != null)

d[dc].def[2] = arr4;

if(arr5 != null)

d[dc].def[3] = arr5;

dc++;

i++;

arr1 = arr2 = arr3 = arr4 = arr5= null;

if(input[i][0] != null)

arr1 = input[i][0];

if(input[i][1] != null)

arr2 = input[i][1];

if(input[i][2] != null)

arr3 = input[i][2];

if(input[i][3] != null)

arr4 = input[i][3];

if(input[i][4] != null)

arr5 = input[i][4];if(arr1 == null)

arr1 = "null";

}

if(arr1.equals("MEND")){

d[dc] = new MDT();

d[dc].index = dc;

d[dc].def[0] = arr1;

dc++;

}

}

i++;

}

System.out.print("MNT\nIndex\tName\tMDT\_Index\n");

for(i=0;i<nc;i++){

System.out.println(n[i].index+"\t"+n[i].name+"\t"+n[i]. def\_index);

}

System.out.print("\n\nMDT\nIndex\tDefinition\n");

for(i=0;i<dc;i++){

System.out.print(d[i].index+"\t");

d[i].print();

}

}

}