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Name : Desale Darshan Ramdas

Class : TE A

Roll No: 23

Pass I
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//Java code for Pass I

```java
import java.io.*;
import java.util.*;

class Darshan
{
public static void main(String args[])throws Exception
{
int loc=0;
int j=0,sym=0,lit=0,v=0;

FileReader file1=new FileReader("Assembly.txt");
BufferedReader buff1=new BufferedReader(file1);

FileWriter file2=new FileWriter("Symbol.txt");
BufferedWriter buff2=new BufferedWriter(file2);

FileWriter file3=new FileWriter("Intermediate.txt");
BufferedWriter buff3=new BufferedWriter(file3);

FileWriter file4=new FileWriter("Literal.txt");
BufferedWriter buff4=new BufferedWriter(file4);
buff4.newLine();
buff4.newLine();
buff4.write("\t\t.......Literals Table.......");
buff4.newLine();
buff4.newLine();

buff2.newLine();
buff2.newLine();
buff2.write("\t\t.......Symbol Table.......");
buff2.newLine();
buff2.newLine();

buff3.newLine();
buff3.newLine();
```

```java
buff3.write("\t\t......Intermediate code......");
buff3.newLine();
buff3.newLine();
String s,sl;
String s1[]=new String[4];
String s2[]=new String[4];
String s5[][]=new String[4][2];
while((s=buff1.readLine())!=null)
{
int flag=0;
int m=0;
StringTokenizer st=new StringTokenizer(s);
while(st.hasMoreTokens())
{
s1[m]=st.nextToken();
m++;
}
if(s1[1].equals("START"))
{

buff3.write("\t\t AD 01");
buff3.write(" C "+s1[2]);
loc=Integer.parseInt(s1[2]);
buff3.newLine();
buff3.newLine();

}
else if(s1[1].equals("END"))
{
for(int i=1;i<=lit;i++)
{
buff3.write(loc+" ");
buff3.write("\t AD 02");
buff3.newLine();
buff3.newLine();
loc=loc+1;
}
}
else
{
buff3.write(loc+" ");
if(!s1[0].contains("-"))
{
sym++;
buff2.write(sym+" "+s1[0]);
```

```java
buff2.write(" "+loc+"\n");
}

FileReader file5=new FileReader("Opcode.txt");
BufferedReader buff5=new BufferedReader(file5);
while((sl=buff5.readLine())!=null)
{
j=0;
StringTokenizer se=new StringTokenizer(sl);
while(se.hasMoreTokens())
{
s2[j]=se.nextToken();
j++;
}
if(s1[1].equals(s2[0])==true)
{
for(int a=1;a<3;a++)
{
buff3.write(" ");
buff3.write(" "+s2[a]);
}
}
if(s1[2].equals(s2[0])==true)
{
for(int a=1;a<2;a++)
{
buff3.write(" ");
buff3.write(" "+s2[a]+" "+s2[2]);
}
}

}

if(s1[3].contains("="))
{
int i;flag=0;
for( i=0;i<lit;i++)
{
if(s5[i][1].equals(s1[3]))
{ flag=1;
break;}
}

if(flag!=1)
{
```

```java
lit++;
s5[v][0]=Integer.toString(lit);
s5[v][1]=s1[3];
v++;
buff4.newLine();
buff4.write(" "+lit);
buff4.write(" "+s1[3]);
buff3.write(" ");
buff3.write(" "+"L "+lit);
}
else
{
buff3.write(" ");
buff3.write(" "+"L "+s5[i][0]);
}

}

else if((s1[3]).matches("[a-zA-Z]"))
{
buff3.write(" "+"S "+sym);

}
loc=loc+1;

buff3.newLine();

buff3.newLine();
buff5.close();
}

}
buff1.close();
buff2.close();
buff3.close();
buff2.close();
buff4.close();
}
}
```

Input File:

1.Assembly.txt :

- START 200

RESULT MOVER AREG =10

- MOVEM BREG S

- SUB AREG =9

- LTORG

- MOVEM AREG T

- BC any RESULT

- ADD CREG,4

A DC 6

B DS 2

- END

2.Opcode.txt

STOP IS 01

ADD IS 02

SUB IS 03

MUL IS 04

MOVER IS 05

MOVEM IS 06

START AD 01

END AD 02

ORIGIN AD 03

LTORG AD 04

AREG RG 01

BREG RG 02

CREG RG 03

DREG RG 04

DC DL 01

DS DL 02

#Output files:

1.Symbol.txt

………Symbol Table……..

1 RESULT 200

2 S 207

3 T 208

2.Literal.txt

.......Literals Table.......

1 =10

2 =9

3.Intermediate.txt

......Intermediate code......

AD   01   C 200

200 IS 05 RG 01 L 1

201 IS 06 RG 02 S 1

202 IS 03 RG 01 L 2

203 AD 04 RG 01 L 2

204 IS 06 RG 01 S 1

205

206 IS 02

207 DL 01

208 DL 02

209   AD   02

210   AD   02

**********FINISHED**********