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ROLLNO: - 46
CLASS/BATCH: - TE-B-2

Practical no-2

//Implement Pass-II of two pass assembler for pseudo-machine using object-oriented features. The output of assignment-1 (intermediate file and symbol table) should be input for this assignment.

```
import java.io.BufferedReader;
import java.io.FileReader;
import java.io.FileWriter; import
java.io.IOException; import
java.util.HashMap;



public class Pass2 {
public static void main(String[] Args) throws IOException{
BufferedReader b1 = new BufferedReader(new FileReader("intermediate.txt"));
BufferedReader b2 = new BufferedReader(new FileReader("symtab.txt"));
BufferedReader b3 = new BufferedReader(new FileReader("littab.txt"));
FileWriter f1 = new FileWriter("Pass2.txt");
HashMap<Integer, String> symSymbol = new HashMap<Integer, String>();
HashMap<Integer, String> litSymbol = new HashMap<Integer, String>();
HashMap<Integer, String> litAddr = new HashMap<Integer, String>(); String
s;
int symtabPointer=1,littabPointer=1,offset;
while((s=b2.readLine())!=null){ String
word[]=s.split("\t\t\t");
symSymbol.put(symtabPointer++,word[1]);
}
while((s=b3.readLine())!=null){ String
word[]=s.split("\t\t");
litSymbol.put(littabPointer,word[0]);
litAddr.put(littabPointer++,word[1]); }

while((s=b1.readLine())!=null){
```

```
if(s.substring(1,6).compareToIgnoreCase("IS,00")==0){ f1.write("+
00 0 000\n");
}
else if(s.substring(1,3).compareToIgnoreCase("IS")==0){
f1.write("+ "+s.substring(4,6)+" "); if(s.charAt(9)==')'){
f1.write(s.charAt(8)+" "); offset=3; } else{ f1.write("0 ");
offset=0; }
if(s.charAt(8+offset)=='S')
f1.write(symSymbol.get(Integer.parseInt(s.substring(10+offset,s.length()-1)))+"\n"); else
f1.write(litAddr.get(Integer.parseInt(s.substring(10+offset,s.length()-1)))+"\n");
}
else if(s.substring(1,6).compareToIgnoreCase("DL,01")==0){
String s1=s.substring(10,s.length()-1),s2=""; for(int i=0;i<3-
s1.length();i++) s2+="0"; s2+=s1;
f1.write("+ 00 0 "+s2+"\n");
} else{
f1.write("\n");
} }
f1.close();
b1.close()
;
b2.close()
;
b3.close()
; } }
```

Pass2.txt

```
+ 04 1 206
+ 05 1 211
+ 04 1 211
+ 04 3 212
+ 01 3 207
+ 07 6 208
+ 00 0 005
```

+ 00 0 001

+ 02 1 213

+ 07 1 202

+ 00 0 000

+ 03 3 212

+ 00 0 001

Symtab.txt-

A	211	1
LOOP	202	1
B	212	1
NEXT	208	1
BACK	202	1
LAST	210	1

Littab.txt

5	206
1	207
1	213

Intermediate.txt

(AD,01)(C,200)

(IS,04)(1)(L,1)

(IS,05)(1)(S,1)

(IS,04)(1)(S,1)

(IS,04)(3)(S,3)

(IS,01)(3)(L,2)

(IS,07)(6)(S,4)

(DL,01)(C,5)

(DL,01)(C,1)

(IS,02)(1)(L,3)

(IS,07)(1)(S,5)

(IS,00)

(AD,03)(S,2)+2

(IS,03)(3)(S,3)

(AD,03)(S,6)+1

(DL,02)(C,1)

(DL,02)(C,1)

(AD,02) (DL,01)(C,1) Output- gescoe@gescoe-OptiPlex-3010:-/Desktop/TE-46$ javac pass2.java gescoe@gescoe-OptiPlex-3010:-/Desktop/TE-46$ java pass2 input.txt gescoe@gescoe-OptiPlex-3010:-/Desktop/TE-46$ cat pass2.txt

+ 04 1 206

+ 05 1 211

+ 04 1 211

+ 04 3 212

+ 01 3 207

+ 07 6 208

+ 00 0 005

+ 00 0 001

+ 02 1 213

+ 07 1 202

+ 00 0 000

+ 03 3 212

+ 00 0 001