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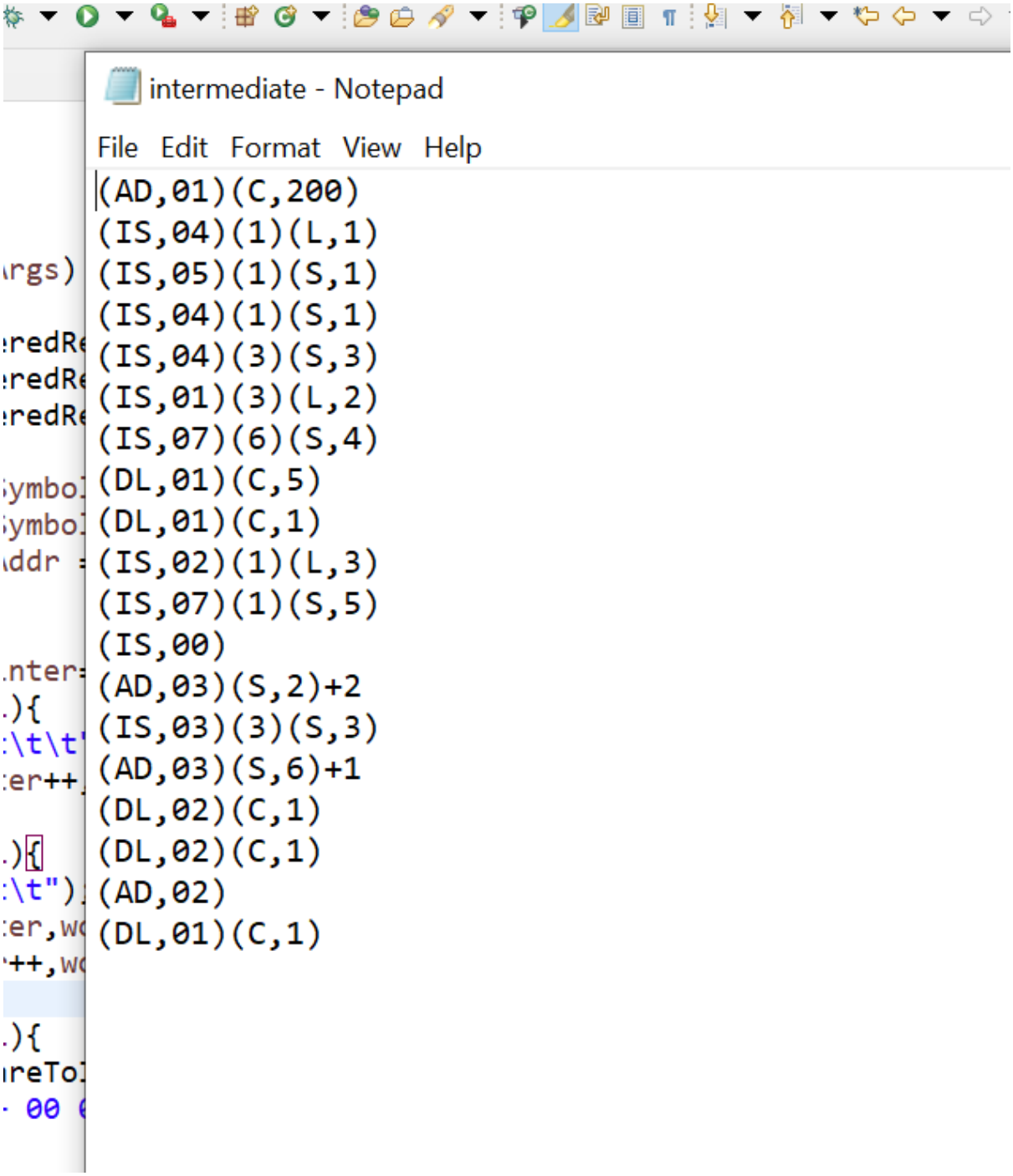
Subject: LP-1 – Second Pass of Two Pass Assembler

Code:

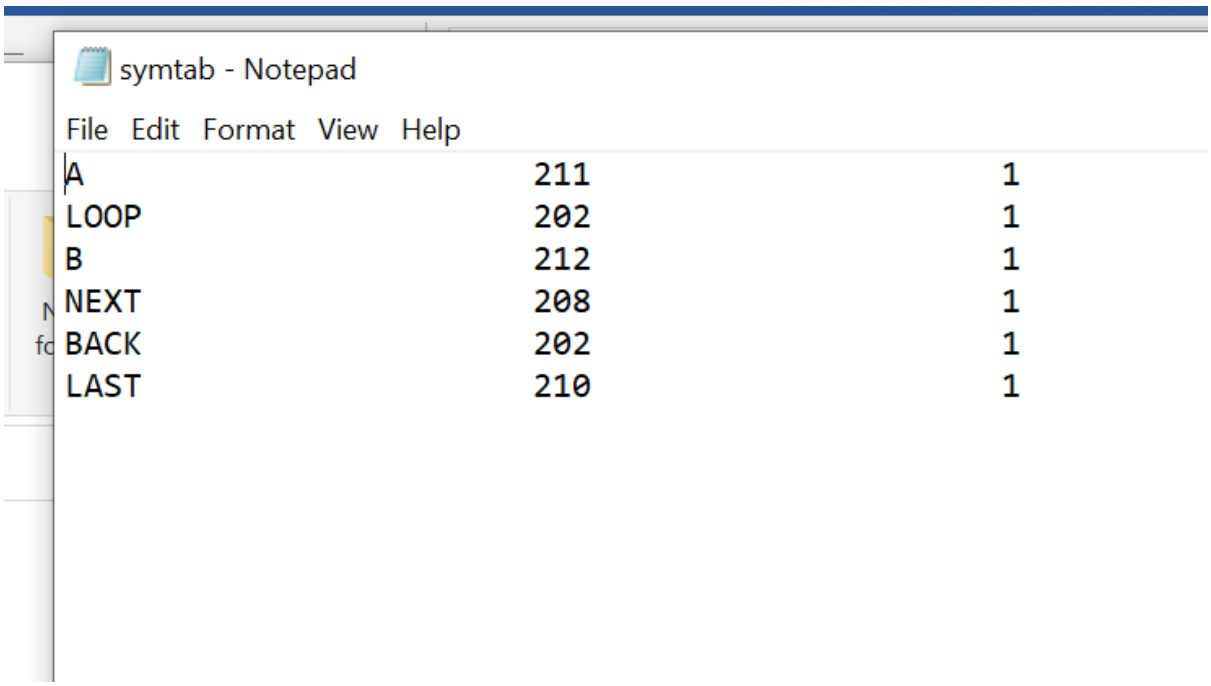
```
import java.io.*;
import java.util.HashMap;

public class PassTwo {
	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"));

		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){
			System.out.print("\n+ 00 0 000");
		   }
		   else if(s.substring(1,3).compareToIgnoreCase("IS")==0){
			System.out.print("\n+ "+s.substring(4,6)+" ");
			if(s.charAt(9)==')'){
				System.out.print(s.charAt(8)+" ");
				offset=3;
			}
			else{
				System.out.print("0 ");
				offset=0;
			}
			if(s.charAt(8+offset)=='S')

System.out.print(symSymbol.get(Integer.parseInt(s.substring(10+offset,s.length()-
1))));
			else

System.out.print(litAddr.get(Integer.parseInt(s.substring(10+offset,s.length()-
1))));
		}
```

```
                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;
                        System.out.print("\n+ 00 0 "+s2);
                }
                else{
                        System.out.print("\n");
                }
            }

            b1.close();
            b2.close();
            b3.close();
        }
}
```

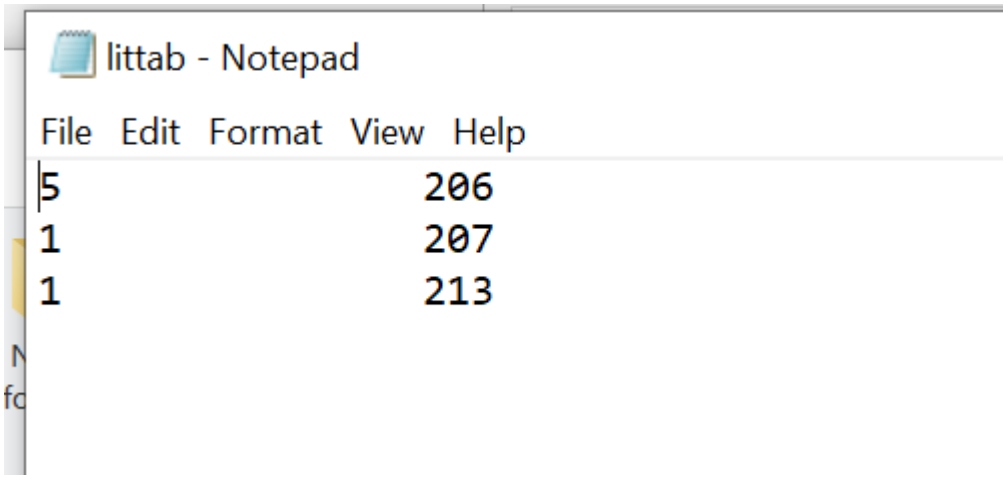
Input IC:


intermediate - Notepad
File Edit Format View Help
(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)

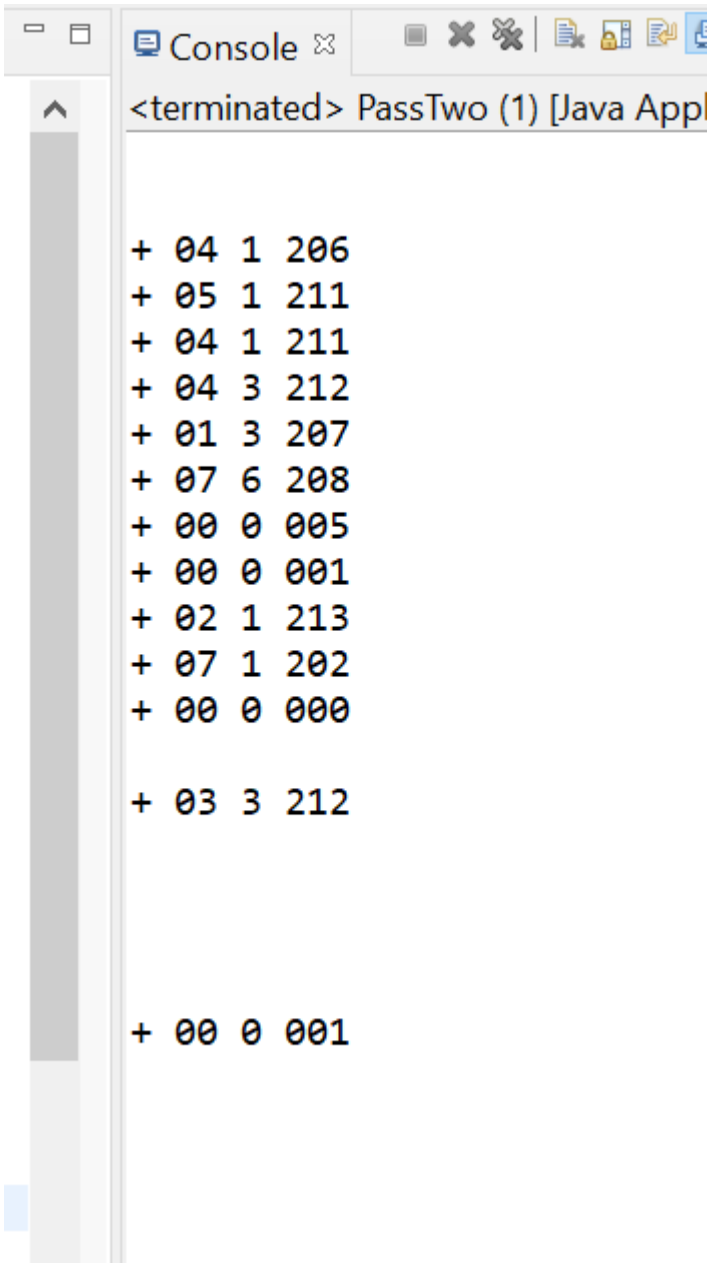
SYMTAB:



LITTAB:



Output of Second Pass:


Console
<terminated> PassTwo (1) [Java Appl
+ 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

Thank You!