```
import java.util.*;
import java.io.*;
public class pass1
{
static int address=0;
static int sadd[]=new int[10];
static int ladd[]=new int[10];
public static void main(String args[])
{
BufferedReader br;
OutputStream oo;
String input=null;
String IS[]={&quot;ADD&quot;,&quot;SUB&quot;,&quot;MUL&quot;,&quot;MOV&quot;};
String UserReg[]={&quot;AREG&quot;,&quot;BREG&quot;,&quot;CREG&quot;,&quot;DREG&quot;};
String AD[]={&quot;START&quot;,&quot;END&quot;};
String DL[]={&quot;DC&quot;,&quot;DS&quot;};
int lc=0;
int scount=0,lcount=0;
int flag=0,flag2=0,stored=0;
String tokens[]=new String[30];
String tt=null;
String sv[]=new String[10];
String lv[]=new String[10];

try
{
br=new BufferedReader(new
FileReader(&quot;initial.txt&quot;));
File f = new File(&quot;IM.txt&quot;);
File f1 = new File(&quot;ST.txt&quot;);
File f2 = new File(&quot;LT.txt&quot;);
```

```
PrintWriter p = new PrintWriter(f);
PrintWriter p1 = new PrintWriter(f1);
PrintWriter p2 = new PrintWriter(f2);

int k=0,l=0;

while ((input = br.readLine()) != null)
{
StringTokenizer st = new
StringTokenizer(input,&quot; &quot;);
while (st.hasMoreTokens())
{
tt=st.nextToken();
//System.out.println(tt);

if(tt.matches(&quot;\\d*&quot;)&amp;&amp; tt.length() &gt; 2)
{
lc=Integer.parseInt(tt);
p.println(lc);
address=lc-1;
}
else
{
for(int i=0;i&lt;AD.length;i++)
{
if(tt.equals(AD[i]))
{
p.print(&quot;AD &quot;+(i+1)+&quot; &quot;);
}

}
```

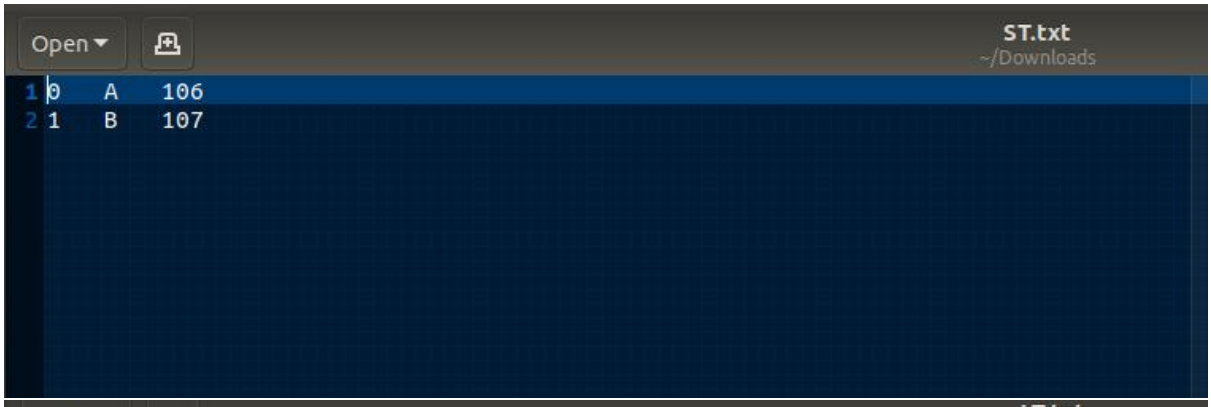
```
for(int i=0;i&amp;lt;IS.length;i++)
{
if(tt.equals(IS[i]))
{
p.print(&amp;quot;IS &amp;quot;+(i+1)+&amp;quot; &amp;quot;);

}
}
for(int i=0;i&amp;lt;UserReg.length;i++)
{
if(tt.equals(UserReg[i]))
{
p.print((i+1)+&amp;quot; &amp;quot;);
flag=1;
}
}
for(int i=0;i&amp;lt;DL.length;i++)

{
if(tt.equals(DL[i]))
{
p.print(&amp;quot;DL &amp;quot;+(i+1)+&amp;quot; &amp;quot;);
}
}
if(tt.length()==1 &amp;amp;&amp;amp; !(st.hasMoreTokens()) &amp;amp;&amp;amp; flag==1)
{

if ( Arrays.asList(sv).contains(tt) )
{
```

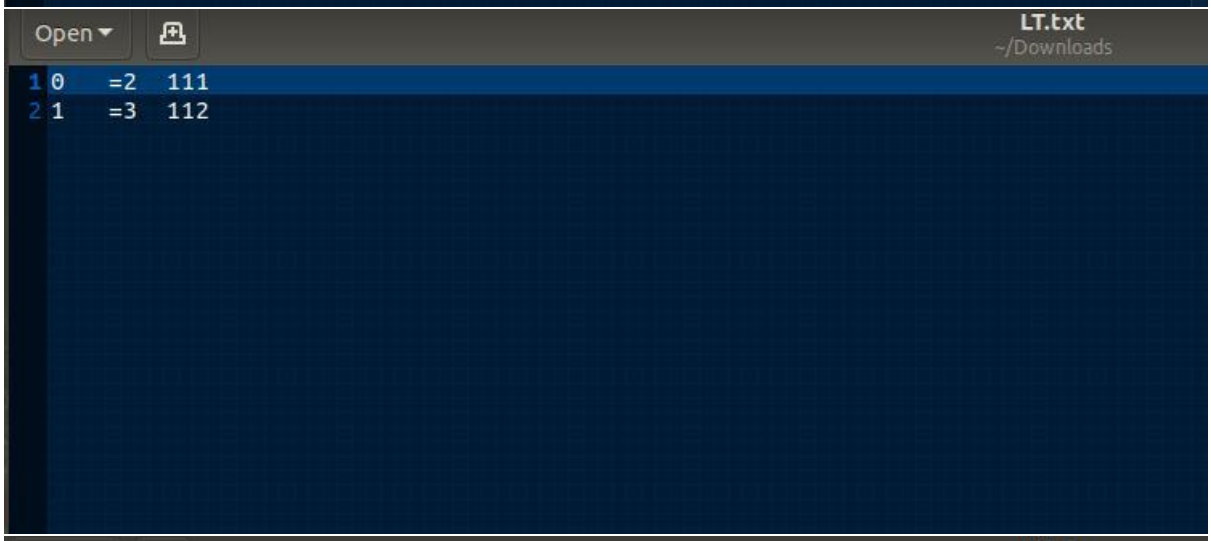
```
for(int i=0;i&amp;lt;scount;i++)
{

if(sv[i].equals(tt))
{
p.print(&amp;quot;S&amp;quot;+i);
flag2=1;
}
else
{
flag2=0;
}
}

}
else
{

p.print(&amp;quot;S&amp;quot;+scount);
sv[scount]=tt;
flag2=1;
scount++;

}
}
if(tt.length()==1 &amp;amp;&amp;amp; (st.hasMoreTokens()))
{
p.print(tt+&amp;quot; &amp;quot;);
sadd[k]=address;k++;
}
```

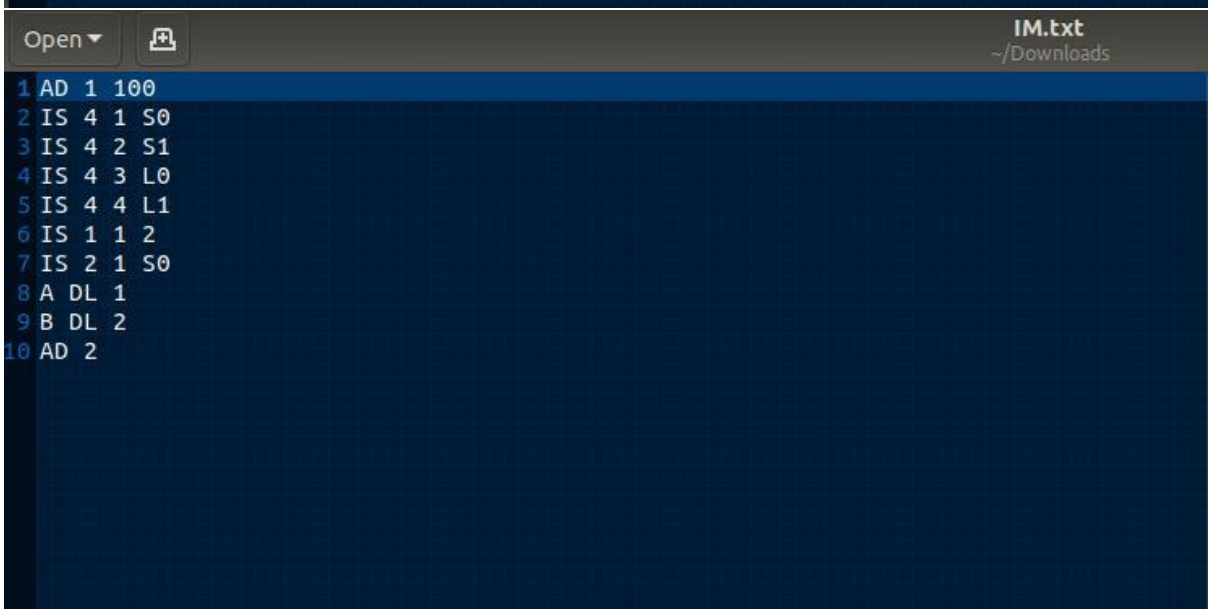
```
if(tt.charAt(0)==&#39;=&#39;)
{
p.print(&quot;L&quot;+lcount);
lv[lcount]=tt;
lcount++;
}
if(!st.hasMoreTokens())
{

p.println();


}

if(tt.equals(&quot;DS&quot;))

{
int a=Integer.parseInt(st.nextToken());
address=address+a-1;
p.println();
}
}

}
//System.out.println();

address++;
} p.close();
address--;
for(int i=0;i&lt;lcount;i++)
{
ladd[i]=address;
```

```
address++;
}

for(int i=0;i&lt;scount;i++)
{
p1.println(i+&quot;\t&quot;+sv[i]+&quot;\t&quot;+sadd[i]);
}p1.close();
for(int i=0;i&lt;lcount;i++)
{
p2.println(i+&quot;\t&quot;+lv[i]+&quot;\t&quot;+ladd[i]);
}p2.close();
}
catch(Exception e)
{
e.printStackTrace();
} } }
```

```
START 100
MOV AREG A
MOV BREG B
MOV CREG =2
MOV DREG =3
ADD AREG BREG
SUB AREG A
A DC 05
B DS 03
END
```


Open
ST.txt
~/Downloads
0 A 106
1 B 107


Open
LT.txt
~/Downloads
0 =2 111
1 =3 112


Open
IM.txt
~/Downloads
AD 1 100
IS 4 1 S0
IS 4 2 S1
IS 4 3 L0
IS 4 4 L1
IS 1 1 2
IS 2 1 S0
A DL 1
B DL 2
AD 2