Flow of control statements

```
a = 230 ;   //L1
b = 72 ;    //L2
while (a%b!=0 && b%a!=0){
    if (a>b) {
        a=a-b; //L3
    }
    else {
        b=b-a ; //L4
    }
}
```

(L3: line)

$S \longrightarrow \text{if } (B)\ S_1$

$S \longrightarrow \text{if } (B)\ S_1 \text{ else } S_2$

$S \longrightarrow \text{while } (B)\ S_1$

For loop is not required since compiler translate the for loop into while loop.

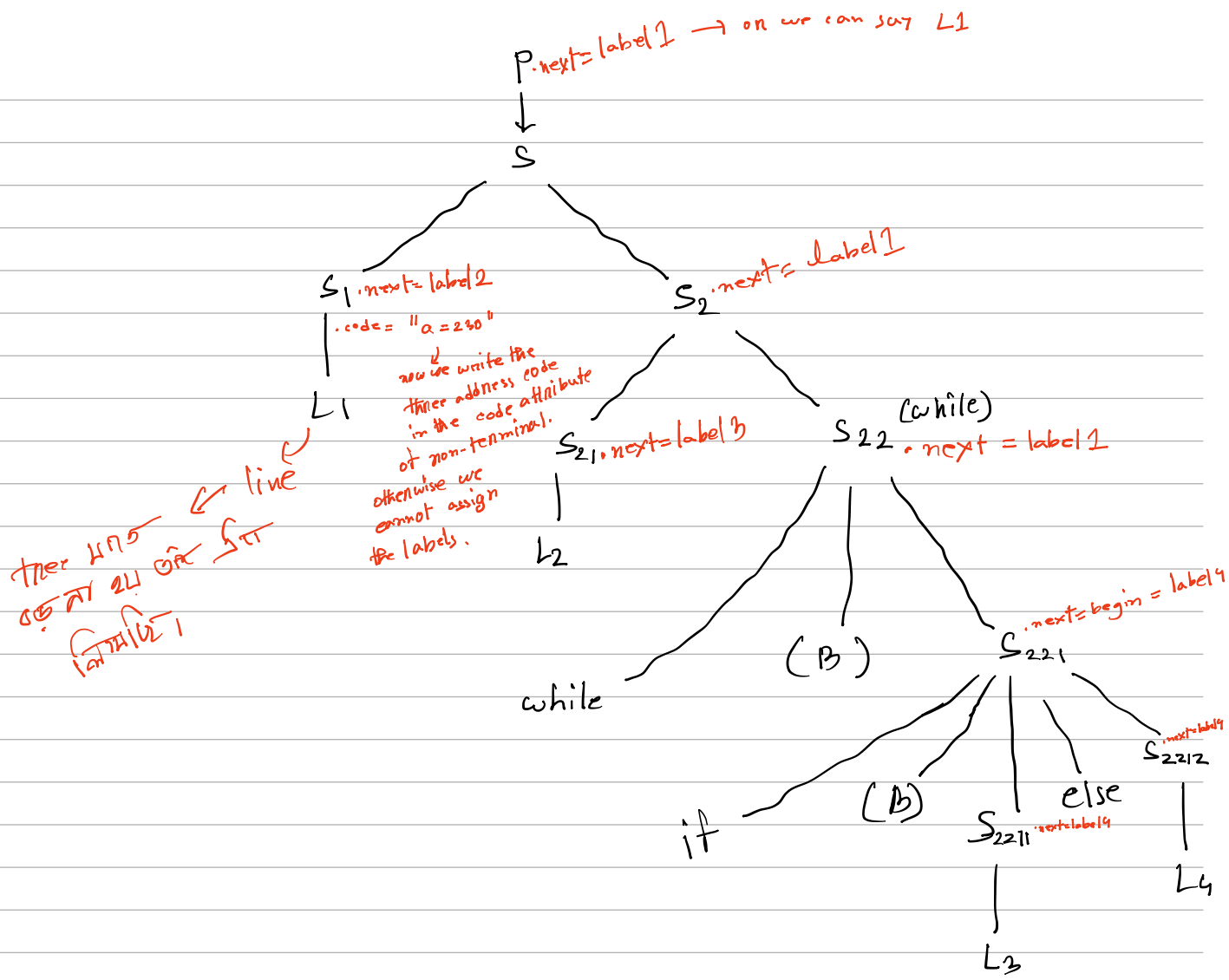
* Figure 6.35.

we need the labels to generate the code

Fig 6.36 for the semantic rules.

add

$S \longrightarrow \{S_1\}$



S.next
↓
label of the next line after S

parse tree তৈরি করে তারপর label গুলো assign করে নিয়ে তারপর code generation.

$$P \rightarrow \{S.next = newLabel()\}\ S\ \{P.code = S.code \mid\mid label(S.next)\}$$