3) Devise an external representation for the formulas in propositional calculus. Write a function that reads such a formula and creates its binary tree representation. What is complexity of your function?

```
void Function (formula)
    stack < char> s
    s.push ( formula -> front )
    formula . pop ( )
    stack < node*> tmp
    while (!s. empty )
        if (formula -> front == '∧', 'v', '->', '<->', '(' )
            s.push ( formula -> front )
            formula. pop .
        if (formula -> front == p, q, r, s )
            tmp . push (formula -> front . )
            formula. pop .
        if ( formula -> front == ')' )
            node * tmp1, *tmp2, *tmp3
            tmp1 = tmp. pop( )
            tmp2 = tmp. pop()
            tmp3 = s. pop ()
            tmp3 -> lchild = tmp1
            tmp3 -> rchild = tmp2
            s. pop()
    return                              ( O( formula. size() ) )
```