

Exercise 4.5

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Extend the (untyped) functional language with infix operator “&&” meaning sequential logical “and” and infix operator “||” meaning sequential logical “or”, as in C, C++, Java, C#, or F#. Note that $e1 \ \&\& \ e2$ can be encoded as $\text{if } e1 \text{ then } e2 \text{ else false}$ and that $e1 \ || \ e2$ can be encoded as $\text{if } e1 \text{ then true else } e2$. Hence you need only change the lexer and parser specifications, and make the new rules in the parser specification generate the appropriate abstract syntax. You need not change `Absyn.fs` or `Fun.fs`.

Solution:

The following infix operators was added to the lexer in: `FunLex.fs1`

```
| "&&"      { AND }
| "||"      { OR }
```

The following was added to the parser in: `FunPar.psy`

```
%token AND OR
| Expr AND Expr      { If($1, $3, CstB false) } (* added for 4.5
| Expr OR Expr       { If($1, CstB true, $3 ) }  (* added for 4.5
```