

Virtual World Development

ASL EXAMPLES, LOGIC

BooleanLogic = {

```
    BOOL = { true false }           ;domain
    not[false] = true                ;constructors
    not[true] = false
    not[ not[ p_ ] ] = p              ;reduction patterns
    or[ p_ ] = p
    or[ true p__ ] = true
    or[ false p__ ] = or[ p ]
    and[ p__ ] = not[ or[ Map[ not, p ] ] ] ;definition
    ( if p_ then q_ else r_ ) = if[p, q, r] ;change syntax
    if[ p_, q_, r_ ] = and[ or[ not[p] q ] or[ p r ] ]
}
```

Equality = {

```
    EQ = { x_ = y_ }
}
```

BoundaryLogic = {

```
    BL = { <> }                       ;domain
    call[ a___ b___ ] = a b           ;constructors
    cross[ a___ ] = < a >
    <> a___ = <>                       ;reduction rules
    << a___ >> = a
    < a__ b___ > a__ = < b > a
}
```

ParseBOOLtoBL = {

```
    USE[ BOOL ] = { p }
    USE[ BL ] = { <> }
    true = <>
    false = <<>>
    not[ p_ ] = <p>
    or[ p__ ] = p
}
```