

Name: *Ben Puryear*

Assignment: 4

Correct and Complete: 24 / 24

Evidence and Quality of Testing: 2 / 2

Clean Code: 2 / 2

Writeup: 2 / 2

Total Score: 30 / 30

Comments:

1. Good job!

Test output:

```
1. RUNNING: ./ast_parser_tests
[=====] Running 47 tests from 1 test suite.
[-----] Global test environment set-up.
[-----] 47 tests from BasicASTParserTests
[ RUN      ] BasicASTParserTests.EmptyInput
[      OK  ] BasicASTParserTests.EmptyInput (0 ms)
[ RUN      ] BasicASTParserTests.EmptyFunction
[      OK  ] BasicASTParserTests.EmptyFunction (0 ms)
[ RUN      ] BasicASTParserTests.EmptyFunctionArrayReturn
[      OK  ] BasicASTParserTests.EmptyFunctionArrayReturn (0 ms)
[ RUN      ] BasicASTParserTests.EmptyFunctionOneParam
[      OK  ] BasicASTParserTests.EmptyFunctionOneParam (0 ms)
[ RUN      ] BasicASTParserTests.EmptyFunctionOneIdParam
[      OK  ] BasicASTParserTests.EmptyFunctionOneIdParam (0 ms)
[ RUN      ] BasicASTParserTests.EmptyFunctionOneArrayParam
[      OK  ] BasicASTParserTests.EmptyFunctionOneArrayParam (0 ms)
[ RUN      ] BasicASTParserTests.EmptyFunctionTwoParams
[      OK  ] BasicASTParserTests.EmptyFunctionTwoParams (0 ms)
[ RUN      ] BasicASTParserTests.EmptyFunctionThreeParams
[      OK  ] BasicASTParserTests.EmptyFunctionThreeParams (0 ms)
[ RUN      ] BasicASTParserTests.MultipleEmptyFunctions
[      OK  ] BasicASTParserTests.MultipleEmptyFunctions (0 ms)
[ RUN      ] BasicASTParserTests.EmptyStruct
[      OK  ] BasicASTParserTests.EmptyStruct (0 ms)
[ RUN      ] BasicASTParserTests.OneFieldStruct
[      OK  ] BasicASTParserTests.OneFieldStruct (0 ms)
[ RUN      ] BasicASTParserTests.OneIdFieldStruct
[      OK  ] BasicASTParserTests.OneIdFieldStruct (0 ms)
[ RUN      ] BasicASTParserTests.OneArrayFieldStruct
[      OK  ] BasicASTParserTests.OneArrayFieldStruct (0 ms)
[ RUN      ] BasicASTParserTests.TwoArrayFields
[      OK  ] BasicASTParserTests.TwoArrayFields (0 ms)
[ RUN      ] BasicASTParserTests.ThreeArrayFields
[      OK  ] BasicASTParserTests.ThreeArrayFields (0 ms)
[ RUN      ] BasicASTParserTests.MultipleEmptyStructs
[      OK  ] BasicASTParserTests.MultipleEmptyStructs (0 ms)
[ RUN      ] BasicASTParserTests.VarDecls
[      OK  ] BasicASTParserTests.VarDecls (0 ms)
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[ RUN      ] BasicASTParserTests.ArrayVarDecl
[ OK       ] BasicASTParserTests.ArrayVarDecl (0 ms)
[ RUN      ] BasicASTParserTests.IdVarDecl
[ OK       ] BasicASTParserTests.IdVarDecl (0 ms)
[ RUN      ] BasicASTParserTests.SimpleAssignment
[ OK       ] BasicASTParserTests.SimpleAssignment (0 ms)
[ RUN      ] BasicASTParserTests.SimplePathAssignment
[ OK       ] BasicASTParserTests.SimplePathAssignment (0 ms)
[ RUN      ] BasicASTParserTests.SimpleArrayAssignment
[ OK       ] BasicASTParserTests.SimpleArrayAssignment (0 ms)
[ RUN      ] BasicASTParserTests.MultiplePathAssignment
[ OK       ] BasicASTParserTests.MultiplePathAssignment (0 ms)
[ RUN      ] BasicASTParserTests.SingleIfStatement
[ OK       ] BasicASTParserTests.SingleIfStatement (0 ms)
[ RUN      ] BasicASTParserTests.IfStatementWithBody
[ OK       ] BasicASTParserTests.IfStatementWithBody (0 ms)
[ RUN      ] BasicASTParserTests.IfStatementWithElseIF
[ OK       ] BasicASTParserTests.IfStatementWithElseIF (0 ms)
[ RUN      ] BasicASTParserTests.IfStatementWithTwoElseIFs
[ OK       ] BasicASTParserTests.IfStatementWithTwoElseIFs (0 ms)
[ RUN      ] BasicASTParserTests.IfStatementWithElse
[ OK       ] BasicASTParserTests.IfStatementWithElse (0 ms)
[ RUN      ] BasicASTParserTests.FullIfStatement
[ OK       ] BasicASTParserTests.FullIfStatement (0 ms)
[ RUN      ] BasicASTParserTests.EmptyWhileStatement
[ OK       ] BasicASTParserTests.EmptyWhileStatement (0 ms)
[ RUN      ] BasicASTParserTests.WhileStatementWithBody
[ OK       ] BasicASTParserTests.WhileStatementWithBody (0 ms)
[ RUN      ] BasicASTParserTests.Literals
[ OK       ] BasicASTParserTests.Literals (0 ms)
[ RUN      ] BasicASTParserTests.SimpleBooleanExpression
[ OK       ] BasicASTParserTests.SimpleBooleanExpression (0 ms)
[ RUN      ] BasicASTParserTests.SimpleNegatedBooleanExpression
[ OK       ] BasicASTParserTests.SimpleNegatedBooleanExpression (0 ms)
[ RUN      ] BasicASTParserTests.SimpleParenExpression
[ OK       ] BasicASTParserTests.SimpleParenExpression (0 ms)
[ RUN      ] BasicASTParserTests.ExpressionAfterParenExpression
[ OK       ] BasicASTParserTests.ExpressionAfterParenExpression (0 ms)
[ RUN      ] BasicASTParserTests.ExpressionBeforeParenExpression
[ OK       ] BasicASTParserTests.ExpressionBeforeParenExpression (0 ms)
[ RUN      ] BasicASTParserTests.ExpressionWithTwoOps
[ OK       ] BasicASTParserTests.ExpressionWithTwoOps (0 ms)
[ RUN      ] BasicASTParserTests.EmptyCallExpression
[ OK       ] BasicASTParserTests.EmptyCallExpression (0 ms)
[ RUN      ] BasicASTParserTests.OneArgCallExpression
[ OK       ] BasicASTParserTests.OneArgCallExpression (0 ms)
[ RUN      ] BasicASTParserTests.TwoArgCallExpression
[ OK       ] BasicASTParserTests.TwoArgCallExpression (0 ms)
[ RUN      ] BasicASTParserTests.SimpleNewExpression
[ OK       ] BasicASTParserTests.SimpleNewExpression (0 ms)
[ RUN      ] BasicASTParserTests.NewArrayExpression
[ OK       ] BasicASTParserTests.NewArrayExpression (0 ms)
[ RUN      ] BasicASTParserTests.SimpleVarValue
[ OK       ] BasicASTParserTests.SimpleVarValue (0 ms)
[ RUN      ] BasicASTParserTests.SimpleArrayValue
[ OK       ] BasicASTParserTests.SimpleArrayValue (0 ms)
[ RUN      ] BasicASTParserTests.TwoVarPathValue
[ OK       ] BasicASTParserTests.TwoVarPathValue (0 ms)
[ RUN      ] BasicASTParserTests.MultipleVarPathValue
[ OK       ] BasicASTParserTests.MultipleVarPathValue (0 ms)
[-----] 47 tests from BasicASTParserTests (1 ms total)

```

```
[-----] Global test environment tear-down
[=====] 47 tests from 1 test suite ran. (1 ms total)
[ PASSED ] 47 tests.
```

2. RUNNING: ./parser_syntax_tests

```
[=====] Running 70 tests from 1 test suite.
[-----] Global test environment set-up.
[-----] 70 tests from BasicASTParserTests
[ RUN      ] BasicASTParserTests.EmptyInput
[      OK ] BasicASTParserTests.EmptyInput (0 ms)
[ RUN      ] BasicASTParserTests.EmptyStruct
[      OK ] BasicASTParserTests.EmptyStruct (0 ms)
[ RUN      ] BasicASTParserTests.EmptyFunction
[      OK ] BasicASTParserTests.EmptyFunction (0 ms)
[ RUN      ] BasicASTParserTests.StructWithBaseTypeVars
[      OK ] BasicASTParserTests.StructWithBaseTypeVars (0 ms)
[ RUN      ] BasicASTParserTests.StructWithNonBaseTypeVars
[      OK ] BasicASTParserTests.StructWithNonBaseTypeVars (0 ms)
[ RUN      ] BasicASTParserTests.BaseValueReturn
[      OK ] BasicASTParserTests.BaseValueReturn (0 ms)
[ RUN      ] BasicASTParserTests.NonBaseValueReturn
[      OK ] BasicASTParserTests.NonBaseValueReturn (0 ms)
[ RUN      ] BasicASTParserTests.OneParam
[      OK ] BasicASTParserTests.OneParam (0 ms)
[ RUN      ] BasicASTParserTests.BaseTypeParams
[      OK ] BasicASTParserTests.BaseTypeParams (0 ms)
[ RUN      ] BasicASTParserTests.NonBaseTypeParams
[      OK ] BasicASTParserTests.NonBaseTypeParams (0 ms)
[ RUN      ] BasicASTParserTests.VarDecls
[      OK ] BasicASTParserTests.VarDecls (0 ms)
[ RUN      ] BasicASTParserTests.SimpleIf
[      OK ] BasicASTParserTests.SimpleIf (0 ms)
[ RUN      ] BasicASTParserTests.FullIf
[      OK ] BasicASTParserTests.FullIf (0 ms)
[ RUN      ] BasicASTParserTests.SimpleFor
[      OK ] BasicASTParserTests.SimpleFor (0 ms)
[ RUN      ] BasicASTParserTests.SimpleWhile
[      OK ] BasicASTParserTests.SimpleWhile (0 ms)
[ RUN      ] BasicASTParserTests.PathExpressions
[      OK ] BasicASTParserTests.PathExpressions (0 ms)
[ RUN      ] BasicASTParserTests.FunctionCalls
[      OK ] BasicASTParserTests.FunctionCalls (0 ms)
[ RUN      ] BasicASTParserTests.LogicalExpressions
[      OK ] BasicASTParserTests.LogicalExpressions (0 ms)
[ RUN      ] BasicASTParserTests.RelationalExpressions
[      OK ] BasicASTParserTests.RelationalExpressions (0 ms)
[ RUN      ] BasicASTParserTests.ArithmeticExpressions
[      OK ] BasicASTParserTests.ArithmeticExpressions (0 ms)
[ RUN      ] BasicASTParserTests.NewExpressions
[      OK ] BasicASTParserTests.NewExpressions (0 ms)
[ RUN      ] BasicASTParserTests.MixOfStatements
[      OK ] BasicASTParserTests.MixOfStatements (0 ms)
[ RUN      ] BasicASTParserTests.NestedStatements
[      OK ] BasicASTParserTests.NestedStatements (0 ms)
[ RUN      ] BasicASTParserTests.MixOfStructAndFun
[      OK ] BasicASTParserTests.MixOfStructAndFun (0 ms)
[ RUN      ] BasicASTParserTests.StatementOutsideFunction
[      OK ] BasicASTParserTests.StatementOutsideFunction (0 ms)
[ RUN      ] BasicASTParserTests.NotStructOrFunction
[      OK ] BasicASTParserTests.NotStructOrFunction (0 ms)
[ RUN      ] BasicASTParserTests.MissingStructId
[      OK ] BasicASTParserTests.MissingStructId (0 ms)
```

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[ RUN      ] BasicASTParserTests.MissingStructOpen
[ OK       ] BasicASTParserTests.MissingStructOpen (0 ms)
[ RUN      ] BasicASTParserTests.MissingStructClose
[ OK       ] BasicASTParserTests.MissingStructClose (0 ms)
[ RUN      ] BasicASTParserTests.MissingDataTypeInField
[ OK       ] BasicASTParserTests.MissingDataTypeInField (0 ms)
[ RUN      ] BasicASTParserTests.MissingIdInField
[ OK       ] BasicASTParserTests.MissingIdInField (0 ms)
[ RUN      ] BasicASTParserTests.MissingCommaInFields
[ OK       ] BasicASTParserTests.MissingCommaInFields (0 ms)
[ RUN      ] BasicASTParserTests.TooManyCommasInFields
[ OK       ] BasicASTParserTests.TooManyCommasInFields (0 ms)
[ RUN      ] BasicASTParserTests.MissingFunctionOpenParen
[ OK       ] BasicASTParserTests.MissingFunctionOpenParen (0 ms)
[ RUN      ] BasicASTParserTests.MissingFunctionCloseParen
[ OK       ] BasicASTParserTests.MissingFunctionCloseParen (0 ms)
[ RUN      ] BasicASTParserTests.MissingFunctionOpenBrace
[ OK       ] BasicASTParserTests.MissingFunctionOpenBrace (0 ms)
[ RUN      ] BasicASTParserTests.MissingFunctionCloseBrace
[ OK       ] BasicASTParserTests.MissingFunctionCloseBrace (0 ms)
[ RUN      ] BasicASTParserTests.MissingFunctionReturnType
[ OK       ] BasicASTParserTests.MissingFunctionReturnType (0 ms)
[ RUN      ] BasicASTParserTests.MissingTypeInParam
[ OK       ] BasicASTParserTests.MissingTypeInParam (0 ms)
[ RUN      ] BasicASTParserTests.MissingIdInParams
[ OK       ] BasicASTParserTests.MissingIdInParams (0 ms)
[ RUN      ] BasicASTParserTests.TooManyCommasInParams
[ OK       ] BasicASTParserTests.TooManyCommasInParams (0 ms)
[ RUN      ] BasicASTParserTests.ReturnWithoutValue
[ OK       ] BasicASTParserTests.ReturnWithoutValue (0 ms)
[ RUN      ] BasicASTParserTests.MutipleVarsInVarDecl
[ OK       ] BasicASTParserTests.MutipleVarsInVarDecl (0 ms)
[ RUN      ] BasicASTParserTests.NoVarsInVarDecl
[ OK       ] BasicASTParserTests.NoVarsInVarDecl (0 ms)
[ RUN      ] BasicASTParserTests.NoAssignInVarDecl
[ OK       ] BasicASTParserTests.NoAssignInVarDecl (0 ms)
[ RUN      ] BasicASTParserTests.NoInitInVarDecl
[ OK       ] BasicASTParserTests.NoInitInVarDecl (0 ms)
[ RUN      ] BasicASTParserTests.NoParensInIf
[ OK       ] BasicASTParserTests.NoParensInIf (0 ms)
[ RUN      ] BasicASTParserTests.NoExprInIf
[ OK       ] BasicASTParserTests.NoExprInIf (0 ms)
[ RUN      ] BasicASTParserTests.NoIfBody
[ OK       ] BasicASTParserTests.NoIfBody (0 ms)
[ RUN      ] BasicASTParserTests.NonTerminatingIfBody
[ OK       ] BasicASTParserTests.NonTerminatingIfBody (0 ms)
[ RUN      ] BasicASTParserTests.ElseIfWithNoIf
[ OK       ] BasicASTParserTests.ElseIfWithNoIf (0 ms)
[ RUN      ] BasicASTParserTests.ElseIfWithNoCondition
[ OK       ] BasicASTParserTests.ElseIfWithNoCondition (0 ms)
[ RUN      ] BasicASTParserTests.ElseIfWithEmptyParens
[ OK       ] BasicASTParserTests.ElseIfWithEmptyParens (0 ms)
[ RUN      ] BasicASTParserTests.ElseIfWithNoBody
[ OK       ] BasicASTParserTests.ElseIfWithNoBody (0 ms)
[ RUN      ] BasicASTParserTests.ElseIfWithNonTerminatingBody
[ OK       ] BasicASTParserTests.ElseIfWithNonTerminatingBody (0 ms)
[ RUN      ] BasicASTParserTests.ElseWithNoIf
[ OK       ] BasicASTParserTests.ElseWithNoIf (0 ms)
[ RUN      ] BasicASTParserTests.ElseWithNoBody
[ OK       ] BasicASTParserTests.ElseWithNoBody (0 ms)
[ RUN      ] BasicASTParserTests.ElseWithNonTerminatingBody
[ OK       ] BasicASTParserTests.ElseWithNonTerminatingBody (0 ms)

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```

[ RUN      ] BasicASTParserTests.WhileWithNoCondition
[ OK       ] BasicASTParserTests.WhileWithNoCondition (0 ms)
[ RUN      ] BasicASTParserTests.WhileWithEmptyCondition
[ OK       ] BasicASTParserTests.WhileWithEmptyCondition (0 ms)
[ RUN      ] BasicASTParserTests.WhileWithNonTerminatingBody
[ OK       ] BasicASTParserTests.WhileWithNonTerminatingBody (0 ms)
[ RUN      ] BasicASTParserTests.ForWithNoLoopControl
[ OK       ] BasicASTParserTests.ForWithNoLoopControl (0 ms)
[ RUN      ] BasicASTParserTests.ForWithEmptyLoopControl
[ OK       ] BasicASTParserTests.ForWithEmptyLoopControl (0 ms)
[ RUN      ] BasicASTParserTests.ForWithMissingVarDecl
[ OK       ] BasicASTParserTests.ForWithMissingVarDecl (0 ms)
[ RUN      ] BasicASTParserTests.ForWithMissingCondition
[ OK       ] BasicASTParserTests.ForWithMissingCondition (0 ms)
[ RUN      ] BasicASTParserTests.ForWithMissingAssign
[ OK       ] BasicASTParserTests.ForWithMissingAssign (0 ms)
[ RUN      ] BasicASTParserTests.ForWithMissingBody
[ OK       ] BasicASTParserTests.ForWithMissingBody (0 ms)
[ RUN      ] BasicASTParserTests.ForWithNonTerminatedBody
[ OK       ] BasicASTParserTests.ForWithNonTerminatedBody (0 ms)
[ RUN      ] BasicASTParserTests.AssignWithMissingExpression
[ OK       ] BasicASTParserTests.AssignWithMissingExpression (0 ms)
[ RUN      ] BasicASTParserTests.AssignWithAssignOp
[ OK       ] BasicASTParserTests.AssignWithAssignOp (0 ms)
[-----] 70 tests from BasicASTParserTests (4 ms total)

[-----] Global test environment tear-down
[=====] 70 tests from 1 test suite ran. (4 ms total)
[ PASSED ] 70 tests.

```

3. RUNNING: diff examples/print-1.out <(<./mypl --print examples/print-1.mypl)
4. RUNNING: diff examples/print-2.out <(<./mypl --print examples/print-2.mypl)
5. RUNNING: diff examples/print-3.out <(<./mypl --print examples/print-3.mypl)