

Name: *Ben Puryear*

Assignment: 5

Correct and Complete: ..... 24 / 24

Testing: ..... 2 / 2

Clean Code: ..... 2 / 2

Writeup: ..... 2 / 2

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Total Score: ..... 30 / 30

## Comments:

1. Good Job!

## Testing:

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Running ./semantic_checker_tests
[=====] Running 81 tests from 1 test suite.
[-----] Global test environment set-up.
[-----] 81 tests from BasicSemanticCheckerTests
[ RUN      ] BasicSemanticCheckerTests.SmallestProgram
[      OK  ] BasicSemanticCheckerTests.SmallestProgram (0 ms)
[ RUN      ] BasicSemanticCheckerTests.ValidFunctionDefs
[      OK  ] BasicSemanticCheckerTests.ValidFunctionDefs (0 ms)
[ RUN      ] BasicSemanticCheckerTests.MissingMain
[      OK  ] BasicSemanticCheckerTests.MissingMain (0 ms)
[ RUN      ] BasicSemanticCheckerTests.MainWithBadArgs
[      OK  ] BasicSemanticCheckerTests.MainWithBadArgs (0 ms)
[ RUN      ] BasicSemanticCheckerTests.MainWithBadReturnType
[      OK  ] BasicSemanticCheckerTests.MainWithBadReturnType (0 ms)
[ RUN      ] BasicSemanticCheckerTests.BuiltInDefinedWithSameNameAsBuiltIn
[      OK  ] BasicSemanticCheckerTests.BuiltInDefinedWithSameNameAsBuiltIn (0 ms)
[ RUN      ] BasicSemanticCheckerTests.TwoFunctionsWithSameName
[      OK  ] BasicSemanticCheckerTests.TwoFunctionsWithSameName (0 ms)
[ RUN      ] BasicSemanticCheckerTests.FunctionWithTwoIdenticallyNamedParams
[      OK  ] BasicSemanticCheckerTests.FunctionWithTwoIdenticallyNamedParams (0 ms)
[ RUN      ] BasicSemanticCheckerTests.BasicStruct
[      OK  ] BasicSemanticCheckerTests.BasicStruct (0 ms)
[ RUN      ] BasicSemanticCheckerTests.StructWithSelfRef
[      OK  ] BasicSemanticCheckerTests.StructWithSelfRef (0 ms)
[ RUN      ] BasicSemanticCheckerTests.MutualStructRefs
[      OK  ] BasicSemanticCheckerTests.MutualStructRefs (0 ms)
[ RUN      ] BasicSemanticCheckerTests.StructAndFunSameNames
[      OK  ] BasicSemanticCheckerTests.StructAndFunSameNames (0 ms)
[ RUN      ] BasicSemanticCheckerTests.FunctionStructParams
[      OK  ] BasicSemanticCheckerTests.FunctionStructParams (0 ms)
[ RUN      ] BasicSemanticCheckerTests.TwoStructsWithSameName
[      OK  ] BasicSemanticCheckerTests.TwoStructsWithSameName (0 ms)
[ RUN      ] BasicSemanticCheckerTests.StructReferencesUndefinedStruct
[      OK  ] BasicSemanticCheckerTests.StructReferencesUndefinedStruct (0 ms)
[ RUN      ] BasicSemanticCheckerTests.FunctionParamReferencesUndefinedStruct
[      OK  ] BasicSemanticCheckerTests.FunctionParamReferencesUndefinedStruct (0 ms)
[ RUN      ] BasicSemanticCheckerTests.FunctionReturnTypeIsUndefinedStruct
[      OK  ] BasicSemanticCheckerTests.FunctionReturnTypeIsUndefinedStruct (0 ms)
[ RUN      ] BasicSemanticCheckerTests.StructWithTwoIdenticallyNamedFields
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[ OK ] BasicSemanticCheckerTests.StructWithTwoIdenticallyNamedFields (0 ms)
[ RUN ] BasicSemanticCheckerTests.BasicVarDeclarations
[ OK ] BasicSemanticCheckerTests.BasicVarDeclarations (0 ms)
[ RUN ] BasicSemanticCheckerTests.BasicVarDeclarationsWithNull
[ OK ] BasicSemanticCheckerTests.BasicVarDeclarationsWithNull (0 ms)
[ RUN ] BasicSemanticCheckerTests.TwoVarsWithSameName
[ OK ] BasicSemanticCheckerTests.TwoVarsWithSameName (0 ms)
[ RUN ] BasicSemanticCheckerTests.MismatchedVariableDeclarationTypes
[ OK ] BasicSemanticCheckerTests.MismatchedVariableDeclarationTypes (0 ms)
[ RUN ] BasicSemanticCheckerTests.ExpressionExamplesWithoutParensAndVars
[ OK ] BasicSemanticCheckerTests.ExpressionExamplesWithoutParensAndVars (0 ms)
[ RUN ] BasicSemanticCheckerTests.ExpressionExamplesWithParensAndWithoutVars
[ OK ] BasicSemanticCheckerTests.ExpressionExamplesWithParensAndWithoutVars (0 ms)
[ RUN ] BasicSemanticCheckerTests.ExpressionExamplesWithParensAndVars
[ OK ] BasicSemanticCheckerTests.ExpressionExamplesWithParensAndVars (0 ms)
[ RUN ] BasicSemanticCheckerTests.BasicRelationalOperators
[ OK ] BasicSemanticCheckerTests.BasicRelationalOperators (0 ms)
[ RUN ] BasicSemanticCheckerTests.CombinedRelationalOperators
[ OK ] BasicSemanticCheckerTests.CombinedRelationalOperators (0 ms)
[ RUN ] BasicSemanticCheckerTests.ArrayComparisons
[ OK ] BasicSemanticCheckerTests.ArrayComparisons (0 ms)
[ RUN ] BasicSemanticCheckerTests.BadBoolRelationalComparison
[ OK ] BasicSemanticCheckerTests.BadBoolRelationalComparison (0 ms)
[ RUN ] BasicSemanticCheckerTests.BadArrayRelationalOp
[ OK ] BasicSemanticCheckerTests.BadArrayRelationalOp (0 ms)
[ RUN ] BasicSemanticCheckerTests.BadLogicalNegation
[ OK ] BasicSemanticCheckerTests.BadLogicalNegation (0 ms)
[ RUN ] BasicSemanticCheckerTests.FunctionReturnTypeMatch
[ OK ] BasicSemanticCheckerTests.FunctionReturnTypeMatch (0 ms)
[ RUN ] BasicSemanticCheckerTests.MismatchFunctionReturnTypes
[ OK ] BasicSemanticCheckerTests.MismatchFunctionReturnTypes (0 ms)
[ RUN ] BasicSemanticCheckerTests.NonNullReturnInFunction
[ OK ] BasicSemanticCheckerTests.NonNullReturnInFunction (0 ms)
[ RUN ] BasicSemanticCheckerTests.OneReturnInFunctionWithBadType
[ OK ] BasicSemanticCheckerTests.OneReturnInFunctionWithBadType (0 ms)
[ RUN ] BasicSemanticCheckerTests.NonBoolIfCondition
[ OK ] BasicSemanticCheckerTests.NonBoolIfCondition (0 ms)
[ RUN ] BasicSemanticCheckerTests.NonBoolElseIfCondition
[ OK ] BasicSemanticCheckerTests.NonBoolElseIfCondition (0 ms)
[ RUN ] BasicSemanticCheckerTests.BoolArrayIfCondition
[ OK ] BasicSemanticCheckerTests.BoolArrayIfCondition (0 ms)
[ RUN ] BasicSemanticCheckerTests.NonBoolWhileCondition
[ OK ] BasicSemanticCheckerTests.NonBoolWhileCondition (0 ms)
[ RUN ] BasicSemanticCheckerTests.NonBoolConditionInForLoop
[ OK ] BasicSemanticCheckerTests.NonBoolConditionInForLoop (0 ms)
[ RUN ] BasicSemanticCheckerTests.CallToUndefinedFunction
[ OK ] BasicSemanticCheckerTests.CallToUndefinedFunction (0 ms)
[ RUN ] BasicSemanticCheckerTests.TooFewArgsInFunctionCall
[ OK ] BasicSemanticCheckerTests.TooFewArgsInFunctionCall (0 ms)
[ RUN ] BasicSemanticCheckerTests.TooManyArgsInFunctionCall
[ OK ] BasicSemanticCheckerTests.TooManyArgsInFunctionCall (0 ms)
[ RUN ] BasicSemanticCheckerTests.AllowedShadowingExample
[ OK ] BasicSemanticCheckerTests.AllowedShadowingExample (0 ms)
[ RUN ] BasicSemanticCheckerTests.IllegalShadowingExample
[ OK ] BasicSemanticCheckerTests.IllegalShadowingExample (0 ms)
[ RUN ] BasicSemanticCheckerTests.PrintExamples
[ OK ] BasicSemanticCheckerTests.PrintExamples (0 ms)
[ RUN ] BasicSemanticCheckerTests.PrintStructObject
[ OK ] BasicSemanticCheckerTests.PrintStructObject (0 ms)
[ RUN ] BasicSemanticCheckerTests.PrintArrayObject
[ OK ] BasicSemanticCheckerTests.PrintArrayObject (0 ms)
[ RUN ] BasicSemanticCheckerTests.PrintArgsMismatch

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[      OK ] BasicSemanticCheckerTests.PrintArgsMismatch (0 ms)
[ RUN    ] BasicSemanticCheckerTests.InputExample
[      OK ] BasicSemanticCheckerTests.InputExample (0 ms)
[ RUN    ] BasicSemanticCheckerTests.InputReturnTypeMismatch
[      OK ] BasicSemanticCheckerTests.InputReturnTypeMismatch (0 ms)
[ RUN    ] BasicSemanticCheckerTests.InputTooManyArgs
[      OK ] BasicSemanticCheckerTests.InputTooManyArgs (0 ms)
[ RUN    ] BasicSemanticCheckerTests.ToStringExamples
[      OK ] BasicSemanticCheckerTests.ToStringExamples (0 ms)
[ RUN    ] BasicSemanticCheckerTests.ToStringTooManyArgs
[      OK ] BasicSemanticCheckerTests.ToStringTooManyArgs (0 ms)
[ RUN    ] BasicSemanticCheckerTests.ToStringBadArg
[      OK ] BasicSemanticCheckerTests.ToStringBadArg (0 ms)
[ RUN    ] BasicSemanticCheckerTests.ToIntExamples
[      OK ] BasicSemanticCheckerTests.ToIntExamples (0 ms)
[ RUN    ] BasicSemanticCheckerTests.ToIntTooManyArgs
[      OK ] BasicSemanticCheckerTests.ToIntTooManyArgs (0 ms)
[ RUN    ] BasicSemanticCheckerTests.ToIntBadArg
[      OK ] BasicSemanticCheckerTests.ToIntBadArg (0 ms)
[ RUN    ] BasicSemanticCheckerTests.ToDoubleExamples
[      OK ] BasicSemanticCheckerTests.ToDoubleExamples (0 ms)
[ RUN    ] BasicSemanticCheckerTests.ToDoubleTooManyArgs
[      OK ] BasicSemanticCheckerTests.ToDoubleTooManyArgs (0 ms)
[ RUN    ] BasicSemanticCheckerTests.ToDoubleBadArg
[      OK ] BasicSemanticCheckerTests.ToDoubleBadArg (0 ms)
[ RUN    ] BasicSemanticCheckerTests.LengthExamples
[      OK ] BasicSemanticCheckerTests.LengthExamples (0 ms)
[ RUN    ] BasicSemanticCheckerTests.LengthTooManyArgs
[      OK ] BasicSemanticCheckerTests.LengthTooManyArgs (0 ms)
[ RUN    ] BasicSemanticCheckerTests.LengthBadArg
[      OK ] BasicSemanticCheckerTests.LengthBadArg (0 ms)
[ RUN    ] BasicSemanticCheckerTests.GetExamples
[      OK ] BasicSemanticCheckerTests.GetExamples (0 ms)
[ RUN    ] BasicSemanticCheckerTests.GetTooFewArgs
[      OK ] BasicSemanticCheckerTests.GetTooFewArgs (0 ms)
[ RUN    ] BasicSemanticCheckerTests.GetBadArg
[      OK ] BasicSemanticCheckerTests.GetBadArg (0 ms)
[ RUN    ] BasicSemanticCheckerTests.ConcatExamples
[      OK ] BasicSemanticCheckerTests.ConcatExamples (0 ms)
[ RUN    ] BasicSemanticCheckerTests.ConcatTooFewArgs
[      OK ] BasicSemanticCheckerTests.ConcatTooFewArgs (0 ms)
[ RUN    ] BasicSemanticCheckerTests.ConcatTooManyArgs
[      OK ] BasicSemanticCheckerTests.ConcatTooManyArgs (0 ms)
[ RUN    ] BasicSemanticCheckerTests.ConcatBadArg
[      OK ] BasicSemanticCheckerTests.ConcatBadArg (0 ms)
[ RUN    ] BasicSemanticCheckerTests.SingleParameterAccess
[      OK ] BasicSemanticCheckerTests.SingleParameterAccess (0 ms)
[ RUN    ] BasicSemanticCheckerTests.TwoParameterAccesses
[      OK ] BasicSemanticCheckerTests.TwoParameterAccesses (0 ms)
[ RUN    ] BasicSemanticCheckerTests.AccessInvalidParameter
[      OK ] BasicSemanticCheckerTests.AccessInvalidParameter (0 ms)
[ RUN    ] BasicSemanticCheckerTests.ArrayCreation
[      OK ] BasicSemanticCheckerTests.ArrayCreation (0 ms)
[ RUN    ] BasicSemanticCheckerTests.ArrayAccess
[      OK ] BasicSemanticCheckerTests.ArrayAccess (0 ms)
[ RUN    ] BasicSemanticCheckerTests.ArrayAssignedInvalidType
[      OK ] BasicSemanticCheckerTests.ArrayAssignedInvalidType (0 ms)
[ RUN    ] BasicSemanticCheckerTests.ArrayValueInvalidType
[      OK ] BasicSemanticCheckerTests.ArrayValueInvalidType (0 ms)
[ RUN    ] BasicSemanticCheckerTests.StructPathExamples
[      OK ] BasicSemanticCheckerTests.StructPathExamples (0 ms)
[ RUN    ] BasicSemanticCheckerTests.StructPathAssignedInvalidType

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[      OK ] BasicSemanticCheckerTests.StructPathAssignedInvalidType (0 ms)
[ RUN      ] BasicSemanticCheckerTests.StructPathInvalidType
[      OK ] BasicSemanticCheckerTests.StructPathInvalidType (0 ms)
[-----] 81 tests from BasicSemanticCheckerTests (8 ms total)

[-----] Global test environment tear-down
[=====] 81 tests from 1 test suite ran. (8 ms total)
[ PASSED ] 81 tests.
```

Running ./mypl --check ./hw5-examples/static-1.mypl

Running ./mypl --check ./hw5-examples/static-array.mypl

Running ./mypl --check ./hw5-examples/static-cond.mypl

Running ./mypl --check ./hw5-examples/static-exp.mypl

Running ./mypl --check ./hw5-examples/static-for.mypl

Running ./mypl --check ./hw5-examples/static-fun-1.mypl

Running ./mypl --check ./hw5-examples/static-fun-2.mypl

Running ./mypl --check ./hw5-examples/static-struct-arrays.mypl

Running ./mypl --check ./hw5-examples/static-struct.mypl