**Reviewer Name**: Zach Allred

**Reviewed Name**: Koffi Danhounsrou

**Code coverage analysis**:

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| **Method Name** | **Code coverage** | **Proposed test(s) to include** |
| Expr\* Var::subst(const std::string& variable, Expr\* replacement) | 50% | No test for else branch so create test to test non-replacement (ie x + 7, subst(y,6). |
| Num::equals(Expr \*exp) | 50% | Test false branch by using equals against non-Num types(add, Mult, var). |
| Num::interp() | 100% | Add 0 test, and test for large numbers. |
| Num::has\_variable() | 100% | No additional tests needed. |
| Expr\* Num::subst(const std::string& variable, Expr\* replacement) | 100% | No additional tests needed. |
| bool Add::equals(Expr \*exp) | 50% | Test false branch by using equals against non-Add types(Num, multi, var). |
| int Add::interp() | 100% | Add 0 test, and test for large numbers. |
| bool Add::has\_variable() | 100% | Add upper case test, longer string test, and number string test (“0”). |
| Expr\* Add::subst(const std::string& variable, Expr\* replacement) | 100% | Add upper case test, longer string test, and number string test (“0”). |
| bool Mult::equals(Expr \*exp) | 50% | Test false branch by using equals against non-Mult types(add, Num, var). |
| int Mult::interp() | 100% | Add 0 test, and test for large numbers. |
| bool Mult::has\_variable() | 100% | Add upper case test, longer string test, and number string test (“0”). |
| Expr\* Mult::subst(const std::string& variable, Expr\* replacement) | 100% | Add upper case test, longer string test, and number string test (“0”). |
| int Var::interp() | 100% | Add upper case test, longer string test, and number string test (“0”). |
| bool Var::has\_variable() | 100% | Add upper case test, longer string test, and number string test (“0”). |
| bool Var::equals(Expr\* e) | 50% | Test false branch by using equals against non-Var types(add, Mult, Num). |
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**Thoughts / suggestions to improve the code or the tests**:

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| Test more edge cases (0, upper, lower, larger numbers) |
| Make sure all branches are covered. |
| You can simplify the if checks by returning the comparison itself. For example on Equals, return lhs->equals->rhs rather than if that condition, and then else false. |
|  |

Add rows when necessary.