This homework assignment is a written assignment that should be turned in at the beginning of class on Thursday March 5.

1. Consider the following lexically scoped language of integer expressions:

$$
\begin{align}
exp \quad ::= \quad & NUM & (1) \\
| \quad & VAR & (2) \\
| \quad & exp_1 \textbf{ where } VAR = exp_2 & (3) \\
| \quad & exp_1 + exp_2 & (4)
\end{align}
$$

Give an attribute grammar that computes the value of an expression. You may use NUM to refer to the integer value of the numeric literal and that VAR to refer to the `Atom.atom` value of a variable. Your solution may use functional data structures, such as sets and finite maps.