We only translate an if statement with contracts because otherwise Alloy can not verify the program.

1. The way an if statement is translated is that we create *sig*, function, *assert* and *check*. Where the sig represents the states of the variables used in the if statement and assert tries to assert that whenever the precondition is satisfied executing instructions in the if/else statement will satisfy the postcondition.
2. Multiplication is translated as follows: x\*y => x.mul[y]
3. Division is translated as follows: x/y => x.div[y]
4. Modulo is translated as follows: x%y => x.mod[y]
5. Addition is translated as follows: x+y => x.add[y]
6. Subtraction is translated as follows: x-y => x.sub[y]
7. Relational operations have the same syntax as their input syntax
8. Negation is translated as follows: !x => x
9. Conjunction is translated as follows: x&&y => x y
10. Disjunction is translated as follows: x||y => x y
11. Implication is translated as follows: x=>y => x y
12. Equivalence is translated as follows: x <=>y => x y