Lab Exercise 02.01 : Rule Creation for Claims and Policy Management

Objective:

In this lab exercise, you will develop two Drools rules within a health insurance management system. This exercise is designed to enhance your understanding of rule logic, temporal constraints, and object attribute manipulation in Drools.

Prerequisites:

- Basic understanding of the Drools rule engine and its syntax.
- Access to the provided Java classes and repository setup.

Exercise Setup:

1. Ensure your development environment is prepared with the Drools and Maven setup.
2. Use the provided Java classes for `Claim` and `Policy` as part of your Drools project. These classes should include the necessary attributes such as `DateOfClaim` for `Claim` and `PaymentStatus` for `Policy`.

Tasks:

1. **Invalidating Old Claims:**
   - Create a rule named `Invalidate old claims`.
   - This rule should trigger for any `Claim` object where the `DateOfClaim` is more than two years before the current date.
   - When such a `Claim` is identified, its status should be set to 'INVALID', and an appropriate message should be logged indicating the claim's invalidation due to age.
   - Use Java's `LocalDate` class and its methods to calculate the time difference.
2. **Setting Unpaid Policies to INVALID:**
   - Create a rule named `Invalidate Unpaid Policies`.
   - This rule should apply to `Policy` objects that have a `PaymentStatus` of 'Unpaid'.
   - For each policy meeting this criterion, update its status to 'INVALID'.
   - Log a message indicating the policy number and that its status has been updated to 'INVALID' due to unpaid premiums.

Validation:

- Implement these rules into the `ApplicationValidation.drl` file found in 'org.sw.lesson02.demo1' (**Optional:** Comment out other rules to reduce noise)
- Run Session to verify that claims older than two years are marked as 'INVALID'.
- Ensure that policies with unpaid premiums have their statuses updated to 'INVALID'.
- Log outputs should clearly indicate the rule actions taken on the objects.

Evaluation Criteria:

- Correctness of the rule conditions to meet the exercise requirements.
- Proper use of Drools syntax and Java date manipulation.
- Demonstrable, proper functioning of rules in a running session