The CLP(FD) language

- CLP(FD) is a constraint logic language that incorporates a finite-domain solver built using the "glass-box" approach.

- "Glass-box": provide primitive operations to allow efficient implementation of constraint solvers in the user language.

- CLP(FD) provides the single constraint **X in R** where X is a finite-domain variable and R is a range. Various ranges are provided, e.g., L..H, min(Y), max(Y), dom(Y), val(Y).

- The finite-domain constraint "X=Y+C" can be implemented as follows:

  Partial lookahead scheme:

```
'X=Y+C'(X,Y,C) :-
    X in min(Y)+C..max(Y)+C,
    Y in min(X)-C..max(X)-C.
```

  Full lookahead scheme:

```
'X=Y+C'(X,Y,C) :-
    X in dom(Y)+C,
    Y in dom(X)-C.
```