```
* LogMIP input file for small example1
*

SET I /1*3/;
SET J /A,B,C/;
BINARY VARIABLES Y(I);
POSITIVE VARIABLES X(J),T;
VARIABLE Z;
EQUATIONS       EQUAT1, EQUAT2, EQUAT3,
                EQUAT4, EQUAT5, EQUAT6,
                EQUAT7, EQUAT8, EQUAT9, DUMMY,
          OBJECTIVE;

EQUAT1..   T =G= X('A') + 8;
EQUAT2..   T =G= X('B') + 5;
EQUAT3..   T =G= X('C') + 6;
EQUAT4..   X('A')-X('C')+ 5 =L= 0;
EQUAT5..   X('C')-X('A')+ 2 =L= 0;
EQUAT6..   X('B')-X('C')+ 1 =L= 0;
EQUAT7..   X('C')-X('B')+ 6 =L= 0;
EQUAT8..   X('A')-X('B')+ 5 =L= 0;
EQUAT9..   X('B')-X('A') =L= 0;
DUMMY..   SUM(I, Y(I)) =G= 0;
OBJECTIVE.. Z =E= T;

X.UP(J)=20.;

$ONECHO > "%lm.info%"
    DISJUNCTION D1,D2,D3;

    D1 IS
        IF (Y('1')) THEN
                EQUAT4;
        ELSE
                EQUAT5;
        ENDIF;

    D2 IS
        IF(Y('2')) THEN
                EQUAT6;
        ELSE
                EQUAT7;
        ENDIF;

    D3 IS
        IF(Y('3')) THEN
            EQUAT8;
        ELSE
            EQUAT9;
        ENDIF;
$OFFECHO

OPTION MIP=LMCHULL;
MODEL PEQUE1 /ALL/;
SOLVE PEQUE1 USING MIP MINIMIZING Z;
```

Constraints independent of discrete choices (disjunctions)

Constraints for discrete choices (disjunctions)

GAMS components declaration section.

GAMS equations and constraints definition.

Constraint definitions corresponding to disjunction terms are defined here.

Dummy equation to avoid the elimination of variable Y from the model, which handles disjunction terms.

In this section are defined the disjunctions according to the syntax defined for LogMIP. This section is compiled by LogMIP and ignored by GAMS.

LMCHULL is the solver, which generates a MIP problem by applying the convex hull of a disjunctive set. Then a conventional B&B algorithm solves the MIP GAMS Input file generated by the application.