Formulate the relevant Boolean expression, in **Canonical Form** for the truth table given below. Do not simplify the expression. Show all steps

P	Q	R	*f* (P, Q, R)
0	0	0	1
0	0	1	0
0	1	0	1
0	1	1	0
1	0	0	1
1	0	1	0
1	1	0	0
1	1	1	1

Rows where *f* (P, Q, R) = 1:

- Row 1: P=0, Q=0, R=0 => P', Q', R' because P, Q, R are all equal to 0.
- Row 3: P=0, Q=1, R=0 => P', Q, R' because P, R are equal to 0 and Q is equal to 1.
- Row 5: P=1, Q=0, R=0 => P, Q', R' because Q, R are equal to 0 and P is equal to 1.
- Row 8: P=1, Q=1, R=1 => P, Q, R because P, Q, R are all equal to 1.

Boolean expression in Canonical Form:

(P'. Q'. R') + (P'. Q. R') + (P. Q'. R') + (P. Q. R)