

Consider the following statements:

$P$  It is snowing.

$Q$  The bus is late.

$R$  I miss the bus.

$S$  I am hungry.

$T$  I go to Subway.

Write the following sentences using  $P, Q, R, S, T$  and connectives or vice-versa:

I missed the bus because it wasn't late.

Snowing is sufficient for the bus to be late.

NOT  $(T \implies S)$

I am hungry so I will go to Subway even though it is snowing.

$T \implies R$

$(Q \text{ AND } S) \implies T$

I will go to Subway and miss the bus because I am hungry.

It is necessary that the bus be late for me to not miss it.

$(R \text{ OR } S) \implies T$

$(P \text{ OR NOT } P) \implies Q$