Manual for STL specification:

We propose the following examples that clarifies how do we introduce the STL specifications:

Consider the inputs are strings and the outputs are also strings and the out put of a given example can be utilized as the input of another example.

Ex1: $G_{[a,b]}(b_i(s_{t+k}) > 0)$

:= G_operation(str2stl(string) , a,b) ,

string:= '< i , k >' ;

Ex2: $G_{[a,b]}(b_i(s_{t+k}) > 0 \ \vee \ b_j(s_{t+\ell}) > 0)$

:= G_operation(or_operation(str2stl(string1), str2stl(string2)) , a,b) ,

string1:= '<i,k>' string2='<j,l> ' ;

Ex3: $G_{[a,b]}(b_i(s_{t+k}) > 0 \ \wedge \ b_j(s_{t+\ell}) > 0)$

:= G_operation(and_operation(str2stl(string1), str2stl(string2)) , a,b) ,

string1:= '<i,k>' string2='<j,l> ' ;

Ex4: $F_{[a,b]}(b_i(s_{t+k}) > 0 \ \wedge \ b_j(s_{t+\ell}) > 0)$

:= F_operation(and_operation(str2stl(string1), str2stl(string2)) , a,b) ,

string1:= '<i,k>' string2='<j,l> ' ;

Ex5: $F_{[a,b]}((b_i(s_{t+k}) > 0 \ \wedge \ b_j(s_{t+\ell})) > 0) \ \vee \ b_m(s_{t+n}) > 0)$

:= F_operation(or_operation(and_operation(str2stl(string1), str2stl(string2)), str2stl(string3)) , a,b) ,

string1:= '<i,k>' string2='<j,l> ' string3=<n,m> ;

Ex6: $F_{[a,b]}(G_{[c,d]}(b_i(s_{t+k}) > 0) \ \vee \ G_{[e,f]} (b_m(s_{t+n}) > 0))$

:= F_operation(or_operation(G_operation(string1,c,d),G_operation(string2,e,f)) , a,b) ,

string1:= '<i,k>' string2='<m,n> ';