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1  --- create hazard associations from each Hazard Relation Diagram
2  --- component to the Hazard Relation.
3  --- first, create hazard association between hazard and Hazard Relation
4  let  $ha_1^{hazRD} = (h^{hazRD}, hr^{hazRD})$ 
5  --- second, create hazard association between safety goal and Hazard Relation
6  let  $ha_2^{hazRD} = (sg^h, hr^{hazRD})$ 
7  --- third, create hazard association between top-most
8  --- trigger condition and Hazard Relation
9  let  $ha_3^{hazRD} = (tc^h, hr^{hazRD})$ 
10 --- subsume all three hazard association into one set of Hazard Relations
11 let  $HA^{hazRD} = \{ha_1^{hazRD}, ha_2^{hazRD}, ha_3^{hazRD}\}$ 
12 --- fourth (to n-th), create hazard association between every mitigation
13 --- partition and the Hazard Relation and add to set of Hazard Associations
14 foreach  $pm_i^h \in CM^{hazRD}$  {
15     let  $HA^{hazRD} = HA^{hazRD} \cup ha_{tmp}^{hazRD} | ha_{tmp}^{hazRD} = (pm_i^h, hr^{hazRD})$ 
16 }
17 --- create a Hazard Relation Diagram tuple from all components
18 let  $hrd = "HRD for Hazard" + h^{hazRD}$ 
19  $hazRD = (hrd, AD^{hazRD}, h^{hazRD}, T^h, sg^h, MP^{hazRD}, hr^{hazRD}, HA^{hazRD})$ 
20 return  $hazRD$ 
21 }

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Listing 6 Pseudo-Code Signature $append^{HA}$ of a QVTo Script q^{hrd} Generate Hazard Relation Diagrams