

```

1  --- select meta-model types of input and output
2  modeltype AD uses 'http://www.eclipse.org/uml2/5.0.0/UML';
3  modeltype mitigation uses 'http://sse.uni-due.de/mitigationtemplate';
4  --- define transformation function signature
5  ---  $actD^{fr}$  is the activity diagram containing hazard-inducing requirements to be
6  --- changed to hazard-mitigating requirements  $actD^{hmr}$ .
7  ---  $CM^h$  is a set of partial mitigations
8  transformation generateHazardMititgatingReqs
9      (in  $actD^{fr}$ :AD, in  $CM^h$ :mitigation, out  $actD^{hmr}$ :AD);
10
11  main() {
12      --- select mitigated hazard by checking which hazard is referenced in first
13      --- mitigation template in the array
14      Let  $haz = h \in_t pm_i^h | pm_i^h \in CM^h$ 
15      --- check if all templates reference same hazard
16      foreach  $pm_i^h \in CM^h$  {
17          if  $h \in_t pm_i^h \neq haz$  {
18              throw error("Multiple Conceptual Mitigations detected. Aborting");
19              return  $ad^{hmr} = \emptyset$ ;
20          }
21      }

```

Listing 1 Pseudo-Code Signature *sig* of the QVTo Script q^{hmr} .