```
--- insert activity diagram elements from each mitigation template
    foreach partial mitigation pm_i^h ∈ CM^h {
        foreach operation op_i ∈ I |I ∈_t pm_i^h {
            foreach element to be inserted el ∈_t op_i^h {
                if el ∈_t op_{i_i}^h is of type activity {
                --- insert new activity by computing new set of activities
                    A^{actD^{hmr}} = A^{actD^{fr}} ∪ el }
                if el ∈_t op_{i_i}^h is of type pin {
                --- insert new pin by computing new set of pins
                    P^{actD^{hmr}} = P^{actD^{fr_a}} ∪ el }
                if el ∈_t op_{i_i}^h is of type control node {
                --- insert new control node by computing new set of control nodes
                    C^{actD^{hmr}} = C^{actD^{fr}} ∪ el }
                if el ∈_t op_{i_i}^h is of type activity edge {
                ---insert new activity edge by computing new set of activity edges
                --- make sure source and target of the activity edge exist
                   E^{actD^{hmr}} = E^{actD^{fr}} ∪ el|
                   el = (src, m, tar): src, tar ∈ A^{actD^{hmr}} ∪ P^{actD^{hmr}} ∪ C^{actD^{hmr}} }
             }
        }
    }
```

Listing 2 Pseudo-Code of insertion operation op^{insert} of the QVTo Script q^{hmr}.