**Definition 1** (Execution). *Let $\pi$ be an error trace of length $n$. An execution of $\pi$ is a sequence of states $s_0, s_1...s_n$ such that $s_i, s_{i+1} \vDash T$, where $T$ is the transition formula of $\pi[i]$.*

**Definition 2** (Blocked Execution). *An execution of a trace $\pi$ of size $n$ is called a blocked execution, if there exists a sequence of states $s_0, s_1...s_j$ where $i < j \leq n$ such that $s_i, s_{i+1} \vDash T$ where $T$ is the transition formula of $\pi[i]$ and there exists an assume statement in the trace $\pi$ at position $j$ such that $s_j \nvDash guard(\pi[j])$*

**Definition 3** (Relevant Statement). *Let $\pi$ be an error trace of length $n$. Let there be an assignment statement at position $i$ of the form $x := t$ where $x$ is a variable and $t$ is an expression. Let $P$ and $Q$ be two predicates such that for all possible executions of the trace $\pi$ with $s_i, s_{i+1} \vDash T$ , $s_i \in P$ and $s_{i+1} \in Q$.*
*The assignment statement $\pi[i]$ is relevant if we replace it with a havoc statement of the form $havoc(x)$ to get a new trace $\pi'$ and there exists a blocked execution with $s'_i, s'_{i+1} \vDash T'$ such that $T'$ is the transition formula for $havoc(x)$, $s'_i \in P$, $s'_{i+1} \in Q'$ where $Q \subsetneq Q'$.*