|  |  |
| --- | --- |
| Atom | Scope |
| PID | 3 |

|  |  |
| --- | --- |
| Relation | Type |
| album | seq PID |
| toAdd | set PID |
| existing | set PID |
| toDelete | set PID |

|  |
| --- |
| Invariant |
| album in Int lone -> lone PID |
| no toAdd & existing |
| toDelete in existing |
| no toAdd & toDelete |
| #album <= 3 |

|  |  |
| --- | --- |
| sample.OperationFixture |  |
| init | true |
|  |  |
| album | { i:int, p : PID | p != p } |
| toAdd | { p :PID | p ! =p } |
| toDelete | { p :PID | p ! =p } |
| existing | { p :PID | p ! =p } |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| sample.OperationFixture |  |  |  |  |
| addPhoto |  |  |  |  |
| pid:PID | #album < 3 and  pid !in toAdd + existing | #album < 3 and pid in toDelete | pid in album.elems | #album = 3 |
| album | album.add[pid] | album.add[pid] | album | album |
| toAdd | toAdd + pid | toAdd | toAdd | toAdd |
| toDelete | toDelete | toDelete - pid | toDelete | toDelete |

|  |  |
| --- | --- |
| sample.OperationFixture |  |
| removePhoto |  |
| i:int | i in album.PID and album[i] in toAdd |
| album | album.delete[i] |
| toAdd | toAdd - album[i] |
| toDelete | toDelete |