* A **precondition** specifies the conditions to be met before executing an operation call while a **postcondition** indicates what is to be achieved after executing an operation call.
* For example, the precondition for the operation call apply in the Cast class specifies that a patient must be x-rayed before applying a cast. The postcondition here implies that once the precondition is met, the cast procedure is complete.
* an **invariant** is a condition that can be relied upon to be true during the execution of a program, or during some portion of it.

START ALGORITHM

1. context WalkAbility :: check(p: Patient)

pre: p.obtain\_patient\_info = true

post: p.walk\_examined = true

----

1. context severity :: severityDetermined(p: Patient)

pre: p.walk\_examined= true

pre: p.can\_walk=true

post: severity\_determined=true

----

1. context SpontaneousBreathing :: check(p: Patient)

pre: p.walk\_examined = true [AND]

pre: p.can\_walk=true

post: p.examine\_breathing=true

1. context PositionAirway :: ChangePosition(p: Patient)

pre: p.examine\_breathing=true [AND]

pre: p.patient\_breathing=false

post: p.position\_change=true

context PositionAirway :: Recheck(p: Patient)

pre: p.position\_change=true

post: p.recheck\_breathing=true

----

1. context severity :: severityDetermined(p: Patient)

pre: p.patient\_breathing=false [AND]

pre: p.position\_change=true [AND]

pre: p.recheck\_breathing=true [AND]

pre: p.patient\_breathing=false

post: severity\_determined=true

1. context severity :: severityDetermined(p: Patient)

pre: p.patient\_breathing=false [AND]

pre: p.position\_change=true [AND]

pre: p.recheck\_breathing=true [AND]

pre: p.patient\_breathing=true

post: severity\_determined=true

----

1. context RespRate :: MeasureRespRate(p: Patient)

pre: p.examine\_breathing=true [AND]

pre: p.patient\_breathing=true

post: p.measure\_respiratory\_rate=true

----

1. context severity :: severityDetermined(p: Patient)

pre: p.measure\_respiratory\_rate=true [AND]

pre: p.respiratory\_rate= greater than 30

post: severity\_determined=true

----

1. context Perfusion :: checkPulse(p: Patient)

pre: p.measure\_respiratory\_rate=true [AND]

pre: p.respiratory\_rate= less than 30

post: p.radical\_pulse\_check=true

context Perfusion :: MeasureCapRefill(p: Patient)

pre: p.respiratory\_rate= less than 30 [AND]

pre: p. radical\_pulse\_check=true

post: p.measure\_capillary\_refill= true

----

1. context severity :: severityDetermined(p: Patient)

pre: p. radical\_pulse\_check=true [AND]

pre: p.radical\_pulse\_present=false [AND]

pre: p.measure\_capillary\_refill= true [AND]

pre: p.capillary\_refill= capillary refill < 2 secs

post: p.severity\_determined= true

----

1. context MentalState :: checkState(p: Patient)

pre: p.radical\_pulse\_check=true [AND]

pre: p.radical\_pulse\_present=true [AND]

pre: p.measure\_capillary\_refill= true

pre: p.measure\_capillary\_refill= capillary refill > 2 secs

post: p.examine\_Mental\_responsiveness=true

----

1. context Severity :: severityDetermined(p: Patient)

pre: p.radical\_pulse\_check=true [AND]

pre: p.radical\_pulse\_present=true [AND]

pre: p.measure\_capillary\_refill= true

pre: p.capillary\_refill= capillary refill > 2 secs

pre: p.examine\_Mental\_responsiveness=true

pre: p.patient\_able\_to\_respond=true

post: p.severity\_determined=true

1. context Severity :: severityDetermined(p: Patient)

pre: p.radical\_pulse\_check=true [AND]

pre: p.radical\_pulse\_present=true [AND]

pre: p.measure\_capillary\_refill= true

pre: p.capillary\_refill= capillary refill > 2 secs

pre: p.examine\_Mental\_responsiveness=true

pre: p.patient\_able\_to\_respond=false

post: p.severity\_determined=true

SALT ALGORITHM

1. context Breathing :: check(p: Patient)

pre: p.obtain\_patient\_info = true

post: p.check\_breathing=true

----

1. context severity:: severityDetermined (p: Patient)

pre: p.check\_breathing=true

pre: p.patient\_breathing=false

post: p.severity\_determined=true

----

1. context Multiple :: testCommands(p: Patient)

pre: p.is\_breathing=true

post: p.test\_commands=true

context Multiple :: checkPulse(p: Patient)

pre: p.obeys\_commands=true

post: p.peripheral\_pulse\_check=true

context Multiple :: LookRespDistress(p: Patient)

pre: p. peripheral\_pulse\_present=true [AND]

pre: p.obeys\_commands=true

post: p.examine\_for\_respiratory\_distress=true

context Multiple :: ControlHemorrhage(p: Patient)

pre: p. peripheral\_pulse\_present=true [AND]

pre: p.obeys\_commands=true [AND]

pre: p.respiratory\_distress\_present=false

post: p.check\_major\_hemorrhage=true [IF (haemorrhage present)]

post: p.control\_major\_hemorrhage =true

1. context Injury :: checkInjury(p: Patient)

pre: p.obeys\_commands=true [AND]

pre: p. peripheral\_pulse\_present=true [AND]

pre: p.respiratory\_distress\_present=false [AND]

pre: p.recheck\_major\_hemorrhage=true [AND]

pre: p.control\_major\_hemorrhage=true

post: p.check\_minor\_injuries\_only=true

----

1. context severity:: severityDetermined(p: Patient)

pre: p.check\_minor\_injuries\_only=true

pre: p.injury\_type=minor

post:p.severity\_determined=true

1. context severity:: severityDetermined(p: Patient)

pre: p.check\_minor\_injuries\_only=true

pre: p.injury\_type=major

post:p.severity\_determined=true

----

1. context SurviveCurrentResources :: check(p: Patient)

pre: p.obeys\_commands=false [OR]

pre: p.peripheral\_pulse\_present=false [OR]

pre: p.respiratory\_distress\_present=true [OR]

pre: p.control\_major\_hemorrhage=false

post: p.check\_patient\_survive\_current\_resources=true

----

1. context severity:: severityDetermined(p: Patient)

pre: p.check\_patient\_survive\_current\_resources=true

pre: p.survive\_current\_resources=true

post: p.severity\_determined=true

1. context severity:: severityDetermined(p: Patient)

pre: p.check\_patient\_survive\_current\_resources=true

pre: p.survive\_current\_resources=false

post: p.severity\_determined=true

----

ESI ALGORITHM

1. context ImmediateIntervention :: check(p: Patient)

pre: p.obtain\_patient\_info = true

post: p.check\_for\_immediate\_intervention=true

----

1. context severity:: severityDetermined(p: Patient)

pre: p.check\_for\_immediate\_intervention=true

pre: immediate\_intervention\_required=true

post: severity\_determined=true

----

1. context Multiple :: checkHighRiskSituation(p: Patient)

pre: p.check\_for\_immediate\_intervention=true [AND]

pre: p. requires\_immediate\_intervention = false

post: situation\_assess=true

context Multiple :: checkIfConfusedDisoriented(p: Patient)

pre: p.situation\_assess=true [AND]

pre: p.patient\_in\_high\_risk\_situation=false

post: p.examine\_if\_confused =true [OR]

post: p.examine\_if\_disoriented =true [OR]

post: p.examine\_if\_lethargic =true

context Multiple :: checkIfSeverePain(p: Patient)

pre: p.situation\_assess=true

pre: p.patient\_in\_high\_risk\_situation=false

pre: p.examine\_if\_confused =true [OR]

pre: p.examine\_if\_disoriented =true [OR]

pre: p.examine\_if\_lethargic =true

pre: p.patient\_confused=false [AND]

pre: p.patient\_lethargic=false [AND]

pre: p.patient\_disoriented=false [AND]

post: p.check\_if\_severe\_pain=true [OR]

post: p.check\_if\_distressed=true

----

1. context severity:: severityDetermined (p:Patient)

pre: p.situation\_assess=true [AND]

pre: p.patient\_in\_high\_risk\_situation=true [OR]

pre: p.examine\_if\_confused =true [AND]

pre: p.patient\_confused=true [OR]

pre: p.examine\_if\_disoriented =true [AND]

pre: p.patient\_disoriented=true [OR]

pre: p.examine\_if\_lethargic =true [AND]

pre: p.patient\_lethargic=true [OR]

pre: p.check\_if\_severe\_pain=true [AND]

pre: p.patient\_severe\_pain=true [OR]

pre: p.check\_if\_distressed=true [AND]

pre: p.patient\_distressed=true

post: p.severity\_determined=true

----

1. context Resources:: resourcesRequired(p: Patient)

pre: p.situation\_assess=true [AND]

pre: p.patient\_in\_high\_risk\_situation=false [OR]

pre: p.examine\_if\_confused =true [AND]

pre: p.patient\_confused=false [OR]

pre: p.examine\_if\_disoriented =true [AND]

pre: p.patient\_disoriented=false [OR]

pre: p.examine\_if\_lethargic =true [AND]

pre: p.patient\_lethargic=false [OR]

pre: p.check\_if\_severe\_pain=true [AND]

pre: p.patient\_severe\_pain=false [OR]

pre: p.check\_if\_distressed=true [AND]

pre: p.patient\_distressed=false

post: p.check\_amount\_of\_resources\_required=true

----

1. context severity :: severityDetermined(p: Patient)

pre: p.check\_amount\_of\_resources\_required=true

pre: p.resources\_required=0

post: p.severity\_determined=true

1. context severity :: severityDetermined(p: Patient)

pre: p.check\_amount\_of\_resources\_required=true

pre: p.resources\_required=1

post: p.severity\_determined=true

----

1. context DangerZone :: checkVitals(p: Patient)

pre: p.number\_resources\_assessed=true

post: p.vitals\_examined=true

----

1. context severity :: severityDetermined(p: Patient)

pre: p.vitals\_examined=true

pre: p.vitals\_in\_danger\_zone=false

post: p.severity\_determined=true

1. context severity :: severityDetermined(p: Patient)

pre: p.vitals\_examined=true

pre: p.vitals\_in\_danger\_zone=true

post: p.severity\_determined=true