

DistanceSensor
+sensor(sensor) +offset(int) +robotDiameter(robotDiameter) +angle(sensorAngle) +tileSize(tileSize) +maxDetect(float) +detectionLimit(detectionLimit) +val(sensor)
+__init__(self, sensor, sensorAngle, robotDiameter, tileSize, timeStep, detectionLimit=1): set +getDistance(self): get +__getAngle(self, globalRotation): get +getGlobalDetection(self, globalRotation, robotPos): get

aStarNode
+ parent(aStarNode) +position(list, int) +g(int) +h(int) +f(int)
+__eq__(self, other): get +__init__(self, parent=None, position=None)

ColourSensor
+distance( self.distance = distancefromCenter) +sensor(sensor) +r(int) +g(int) +b(int)
+__init__(self, sensor, distancefromCenter, timeStep): set +getPosition(self, robotGlobalPosition, robotGlobalRotation): get +__update(self): set +__isTrap(self): get +__isSwamp(self): get +__isCheckpoint(self): get +__isNormal(self): get +getTileType(self): get

Gyroscope
+sensor(gyro) +oldTime(float) +index(index)
+__init__(self, gyro, index, timeStep): set +def update(self, time, currentRotation): get

Wheel
+__init__(self, wheel, maxVelocity): set +move(self, ratio): set

HeatSensor
+sensor(sensor) +threshold(threshold)
+__init__(self, sensor, thershold, timeStep): set +isClose(self): get

Camer000
+camera(camera) +height + width +tileRanges(tileRanges) +classifyThresh(int)
+__init__(self, camera, tileRanges, timeStep): set +getImg(self): get +getVictimImagesAndPositions(self): get +getVictimRange(self, pos, img): get +getVictimRange(self, pos, img): get

Gps
+gps(gps) +multiplainer(coordsMultiplier)
+__init__(self, gps,timeStep, coordsMultiplier=0): set +getPosition(self): get

StateManager
+state(initialState) +state(newState)
+__init__(self, initialState): set +changeState(self, newState):set +checkState(self, state): get

Emitter
+emitter(emitter) +divisor(coordsDivisor)
+__init__(self, emmitter, coordsDivisor=0): set +sendMessage(self,pos, identifier): set

NodeGrid
+ grid(list) + center(int) + tileSize(int) +offsets(int) +orientations(dic) +nodeColors(dic) +colorNames(dic)
+__init__(self, x, y, tileSize, nodeTypeDict, offsets=[0,0]) +astar(self, start, end): get +bfs(self, start, objectives, limit="undefined"): seget +printMap(self): get +getMat(self): get +setPosition(self, position, val, orientation="center"): set +getPosition(self, position, orientation="center"): get +getTileNode(self, pos): get +getPosfromTileNode(self, tileNode): get +changeValue(self, pos, val, orientation="center"): set +getValue(self, pos, orientation="center"): get +getTile(self, position): get +getOrientationInTile(self, inputPos): get

SequenceManager
+lineIdentifier(int) +linePointer(int) +done(bool)
+__init__(self): set +resetSequence(self): set +startSequence(self): set +check(self): get +nextSeq(self): set +seqDone(self): get

RobotLayer
+robot(Robot()) +posMultiplier(posMultiplier) +timeStep(timeStep) +maxVelocity(maxVelocity) +robotDiameter(robotDiameter) +tileSize(tileSize) +leftWheel(Wheel) +rightWheel(Wheel) +cameras("centre", "right", "left": Camera) +colourSensor(colourSensor) +emitter(Emitter) +gps(Gps) +gyro(Gyroscope) +rollGyro(Gyroscope) +pitchGyro(Gyroscope) +heatLeft(HeatSensor) +heatright(HeatSensor) +distSensors(list) +distSensors(ps0-ps7)
+__init__(self, timeStep, posMultiplier, maxVelocity, robotDiameter, tileSize, distSensorLimit=1): set +step(self): get +getTime(self): get +getRotationByPos(self, prevGlobalPos, globalPos): get +move(self, ratio1, ratio2): set



