

Airport

-planesApproaching = new ConcurrentLinkedDeque<Airplane>(): ConcurrentLinkedDeque<Airplane>
-runwayStorage: Runway[]
-newPlane: Airplane
-indexOfLastRunway = 0: int
-runwaysEmpty: int
-MAX_PLANES = 10: int
-SPAWN_RATE = 0.7: double
-EMERGENCY_RATE = 0.1: double
-MAX_DISTANCE = 5: int
-numEmergencyPlanesSpawned = 0: int
~simClock: Timer
+planeNum = 1: int
+simTime = 0: int

~Airport(): ctor
~Airport(int numberOfRunways, int maxPlanes, double spawnRate, double emergencyRate, double maxSpawnDistance): ctor
~Airport(int numberOfRunways): ctor
+runSimulation(): void
+run(): void
-addToLeastBusyRunway(): void
+clear(): void

Responsibilities:

- Runs main simulation
- Stores 1 to 20 runways using Priority Queues
- Spawns planes randomly based on spawn rate value
- Spawns emergency planes randomly based on emergency rate value
- Sends planes in approach queue to runway with the least amount of wait time
- Stores data about the simulation
 - Number of planes processed
 - Spawn Rate
 - Emergency Rate
 - Max Distance From Airport (upon spawn)
 - Number of emergency planes spawned