

Project Goal:

Simulate a airport runway. Data will be entered from a text file and output will be to the command line.

Data Input Format:

Name of flight, time of request, time requested to take off, amount time to take off
e.g. Delta 160, 0, 0, 4

Data output:

Current queue of flights and estimated time for departure. [this will happen every time unit.]

e.g. At time 2 the queue would look like: Delta 160 (started at 0), Delta 6 (scheduled for 4), UAL 120 (scheduled for 10)

Report of flights and time units taken.

e.g. Delta 160 (0-3), Delta 6 (4-9), UAL 120 (10-13)

Model

Flight object file

Data Fields

Name of flight
time of request
time requested to take off
amount time to take off
take off time

IntakeQueue

Queue of flights from file

ActiveQueue

Queue of flights taking off or waiting to take off

FinishedQueue

Queue of flights that have taken off

View

Report current queue.

Current queue of flights and estimated time for departure. [this will happen every time unit.]

e.g.

Final report

Report of flights and time units taken.

e.g.

Control

DataIntake

It will be assumed that intake of flights will be presorted by time of request.

MoveFlightToActive

Moves flight from IntakeQueue to ActiveQueue, inserting it into the correct position.

MoveFlightToFinished

Moves flight from ActiveQueue to FinishedQueue.

TimeTick

Calls CheckForNextFlight for new flights and MoveFlightToFinished if IsFlightFinished is true.

CheckForNextFlight

Checks IntakeQueue for any flights that need to enter the queue.

IsFlightFinished

Returns true if the flight taking off is finished and the next can start.