Include binaryheap class

Include stack class-

In main

Ask gate numbers from user (initial assumptions – 14 flights per hour arrive at different timess in the hour)

Create a stack object with gate numbers

A double FOR loop to create (24 \* 14 = 336) 336 arrival times with flight numbers starting from 1000 and insert it into an array or a vector

Create the binary heap object using the arrival time vector just created above sorted as per arrival times

Start a while loop to execute till binary heap size becomes zero

{

Here get the minimum from heap, which should be taken into an event structure variable, and this minimum should be deleted from the heap, but should be stored back into a vector that will contain all arrivals as well as departure event structure

If departure then store back its gate number into gate stack, and store the event in the schedules vector as a departure event

If arrival flight

Check for a gate number availability

If gate number available

store the event in the schedules vector as a arrival event

allot a delay time and re insert into the heap as a departure flight

else airport full - abort

}

If all arrivals have been successfully allotted gate numbers then the new vector thus formed will have all arrival and departure information

Create a new heap using this vector which will sort all flights in proper order of time which can be printed

End main

Additional functions that may be required

A Random number function for delay

Create a stack of gate numbers initially