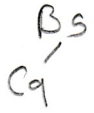
Parv Patel 313768

Ans-4 : Default comparator uses Passport numbers.

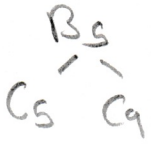
Pax 1 Added : C_9

C_9

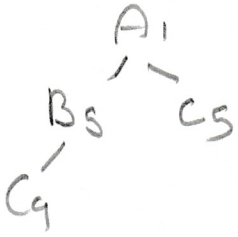
Pax 2 Added B_5: As C_9 is smaller so it will swap with parents



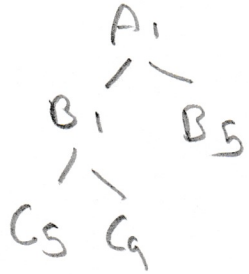
Pax 3 Added C_5: As C_5 is Bigger than C_9 so ill will swap with parent



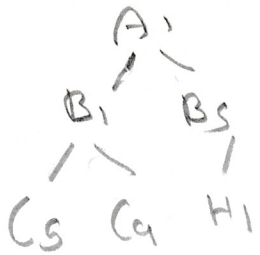
Pax 4 added A_1: As A_1 has the most priority so it will swap with parents



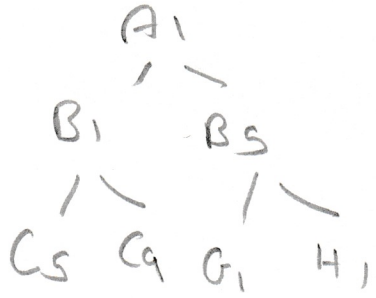
Pax 5 added : B_1 As B_1 has more priority so it will swap with parents



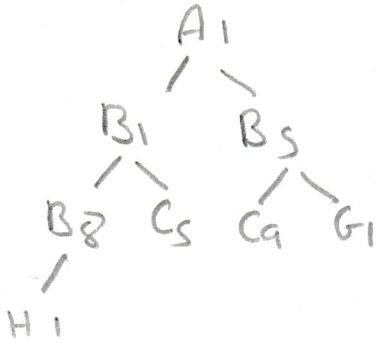
Pax 6 added : H1 : As it has no priority. So no swaps required



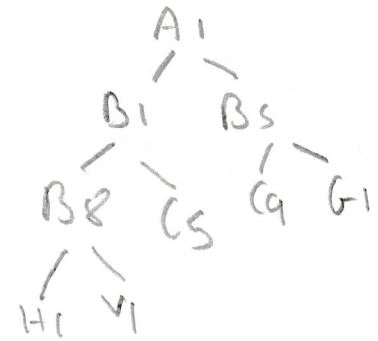
Pax 7 added G1 : If G1 has priority so it will swap with parent of necessary



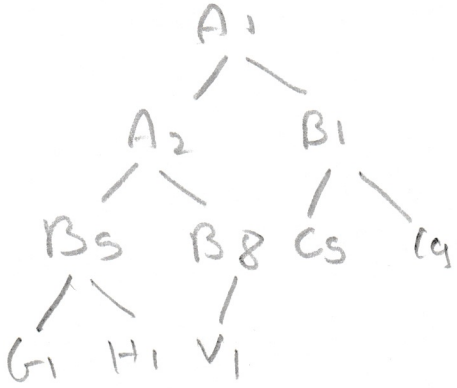
Pax 8 added B8 : If B1 has priority it will swap with parent & will be added in place of C5.



Pax 9 V1 : No changes required as it has no priority

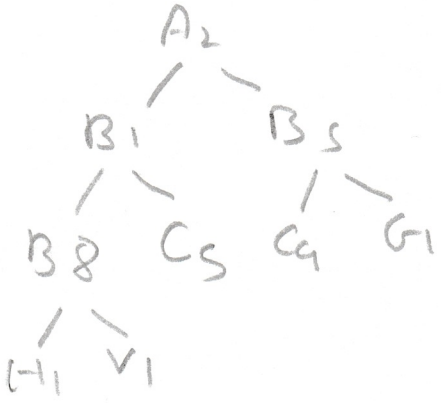


Pax 10 Added A_2: As A_2 has priority so it will swap with parents as necessary

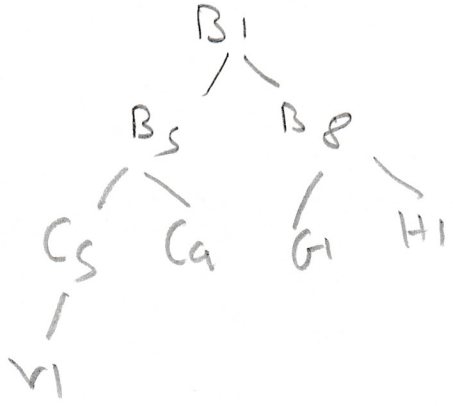


Now 5 passengers will be removed/seated as per priority so our simulation will be (It will swap the last element of the heap with the root. Then heapify down by swapping root with its smallest child until heap property is restored)

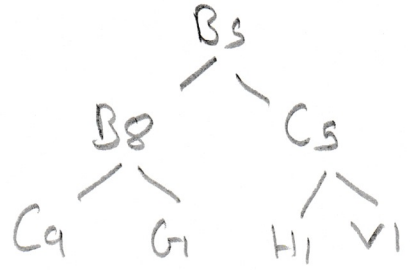
A_1 seated/removed



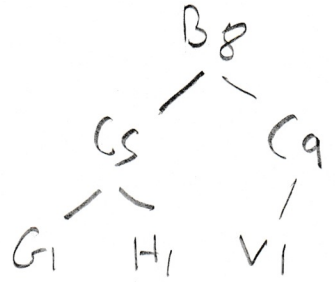
A_2 seated/removed.



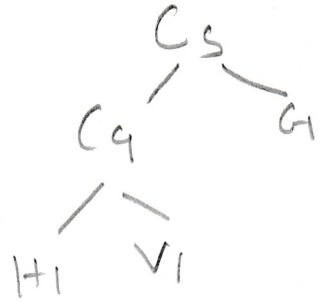
B_7 removed / seated.



B_5 removed / seated.



B_8 removed / seated



and the simulation will go on.