Time complexity Analysis:

**For the single runway case:**

**Best case:** This is the case when all the planes arrive on Target time. No plane gets delayed, comes in early or misses its landing window. The time complexity will be Ω(n).

**Average Case:** This is the case when not all but some of the planes arrive on Target time. Some planes may get delayed, came in early or missed their landing window. The time complexity will be (nlogn).

**Worst Case:** This is the case when mostly all of the planes do not arrive on Target time. Planes may get delayed, came in early or missed their landing window. The time complexity will be (n^2). This happens because the schedule rechanged for all of the planes and also new scheduled times have to be given to those planes that missed their landing window. Some if/else checks have to be performed.

**For the multiple runway case:**

It is difficult to determine the complexity in this case as multiple flights will be landing simultaneously with just collision gap between them so as to avoid collision during simultaneous landing. Overall the complexity will shoot up to (n^3) since now we also have take in consideration all the planes landing on all of the runways and also along with all of that of sinfle runway. The complexity will fluctuate between O(n) and O(n^3) with a closed bound.