Q1) Asymptotic notations.

→ big O of n.

O(n) : worst case.

O(n) represents the worst case scenario ie the algorithm can't take more time than this case. maximum time the algorithm will take to run. Highest time complexity

→ big Omega of n.

Ω(n) : Best case.

Ω(n) represents the best case. ie the algorithm / code won't take lesser time in any other case. minimum time / fastest algorithm can take. Lowest time complexity eg while sorting if you already are given a sorted list.

→ bige theta of n.

Θ(n) : Average case.

Θ(n) represents the average case ie the algorithm will take avg time.