TIME AND SPACE COMPLEXITY

- ★ To get the actual time complexity we will need a lot of things like:
- ➔ The Speed of the Computer.
- ➔ The System Architecture.
- ➔ The Compiler being used.
- ➔ Details of the memory Hierarchy.

- ➔ So, We won't be using them. We will be taking two assumptions:-
  - ◆ Get results that work for large inputs.
  - ◆ Measure runtime without knowing these details.(given above)

Big O,Omega and Theta Notation

- ➔ The Big O notation defines an upper bound of an algorithm
- ➔ The theta notation bounds a functions from above and below.
- ➔ The Omega notation provides an lower bound.

Not Compulsory to use Big O for worst case,etc

- There is no relationship of the type “big O is used for worst case, Theta for average case”. All types of notation can be (and sometimes are) used when talking about best, average, or worst case of an algorithm.
- Worst case can be shown using : big o, theta, or omega
- 10^5 * N units would have complexity of O(K * N).