Part D: Complexity Analysis

1) Order the following functions by growth rate - fastest first. Indicate if any functions grow at the same rate:
   a) N linear
   b) $\sqrt{N}$ $N^{\frac{1}{2}}$ linear
   c) N^2 linear
   d) 2^N Expo
   e) 37 Const

   : e, a, b, c, d

2) What is Asymptotic Complexity Analysis? Contrast the role of Big-O, Big-Ω, and Big-Θ within Asymptotic Complexity Analysis.

   Asymptotic complexity analysis : measure the efficiency of the code

   Big-O : measure worst case
   Big-Ω : measure best case
   Big-θ : measure average complexity

3) Briefly describe how Amortised Analysis can be used to analyse more complex problems

   because Amortised analysis can be used to analyzed the slow operation and identified the worst case average time which is slower than