Question - 1
Time Complexity Order

SCORE: **5 points**

Select the correct order of growth rates.

○ O(log N) < O(N) < O(N log N) < O(2^N) < O(N^2)

○ O(log N) < O(N log N) < O(N) < O(N^2) < O(2^N)

◉ O(log N) < O(N) < O(N log N) < O(N^2) < O(2^N)

○ O(log N) < O(N log N) < O(N) < O(N^2) < O(2^0)

Question - 2
Add Complexity

SCORE: **5 points**

An algorithm is made up of two sequential passes. The asymptotic orders of growth (as denoted by "~") for these passes are *f(n)* and *g(n)*. The order of asymptotic growth of the algorithm, taken as a whole, is:

○   ~ f(n) x g(n)

◉   ~ Max (f(n),g(n))

○   ~ Min (f(n),g(n))

○   ~ (f(n) + g(n))

Question - 3
Calculate Entropy

SCORE: **10 points**

Problem Statement

What is the entropy H, in bits, of the following alphabets whose letters have the probabilities given below?
P => 1/4
Q => 1/8
R => 1/2
S => 1/8

Hint: Equation of entropy contains a *log* with base 2.

Answer. <blank 1>

Answers

<blank 1> : [1.75]

Implement a LinkedList data structure.
Complete the code and run the unit tests.