Quiz 2

Question 1

- Suppose recursive mergesort is used to sort

  W H A R F M E O

In the recursion tree, the left child of the root's right child corresponds to (choose the best):

- A: A R
- B: F M
- C: W H
- D: E O
- E: R F

Question 2

- Let $\mathcal{A}$ be a correct comparison-based sorting algorithm. Choose the best statement.
  - A: For every input of size N, $\mathcal{A}$ must make at least N log N comparisons
  - B: There exists an input of size N for which $\mathcal{A}$ makes at least N log N comparisons
  - C: For every input of size N, $\mathcal{A}$ must make at most N log N comparisons
  - D: None of the above

Question 3

- A binary decision tree with N nodes, L leaves, and height H, must have (choose the best)
  - A: $N \geq 2^H$
  - B: $L \geq 2^H$
  - C: $L \leq 2^H$
  - D: $H \leq \log N$
  - E: None of the above