Answer the following in full sentences. Marks will be given for proper grammar.

1. Explain the phrase "*divide and conquer*". **(3 marks)**

2. Explain the term *recursion,* and give an example of where recursion can be used. **(2 marks)**

3. Although *binary search* is much faster than *linear search* in many situations, it is still extremely common for programmers to use the *linear search* algorithm. Explain situations where *linear search* will be more preferable to a *binary search*? **(2 marks)**

4. Explain the *merge sort* algorithm. **(3 marks)**

5. Explain the *bubble sort* algorithm. **(2 marks)**

6. Explain the advantages and disadvantages of the *merge sort* over the *bubble sort* algorithm.
    (2 marks)

7. Explain why *ambiguous* instructions can cause problems. **(2 marks)**

8. What is a *condition*? Give an example of how a condition can be used. **(2 marks)**