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Merge Sort Recursion Tree

1. How many sub-problems are there at any given level (use L in your equation)? Note: root is **Level 0**, the second level is **Level 1**, and leaves are at **Level $\log_2(n)$** . For Merge Sort, "sub-problem" refers to a call to the Merge function.
2. How many elements are there for a given sub-problem found in level L ? Here, elements refers to the numbers in the subarray passed to the Merge function.
3. How much work is performed at a given level?
Note: we found that the cost of the Merge function was $21m$.
4. What is the **total** computational cost of the MergeSort function?