**Problem 1:**

**BinarySearch:** The recursive calls in a binary search are performed on a distinct inputs and outputs. Hence, the subproblem are of different nature and there is no relationship between each successive recursive call.

**Fibonacci Series:** unlike the binary search hand full of recursive calls in the Fibonacci works on the same input and produce the same input. As an exam Fib (2) is calculated for all n > 2 such us Fib (3), Fib(4) and so. As a result, the subproblems in Fibonacci are overlapping subproblems.

**Problem 2:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| D | “” | “k” | “ka” | “kal” | “kale” |
| “” | 0 | 1 | 2 | 3 | 4 |
| “m” | 1 | 1 | 2 | 3 | 4 |
| “ma” | 2 | 2 | 1 | 2 | 3 |
| “map” | 3 | 3 | 2 | 2 | 3 |
| “mapl” | 4 | 4 | 3 | 2 | 3 |
| “maple” | 5 | 5 | 3 | 3 | 2 |

**Problem 3:**

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**Problem 4:**

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