|  |  |  |
| --- | --- | --- |
| Method | Formula | Time Complexity |
| Naive Algorithm |  |  |
| Closed Fibonacci Form |  | , (power of number recursion) |
| Bottom Up Approach |  |  |
| Matrix Representation |  |  |

Matrix Multiplication

|  |  |
| --- | --- |
| **Method** | **Time Complexity** |
| Naive Algorithm |  |
| Divide and Conquer |  |
| Bottom Up Approach |  |
| Matrix Representation |  |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Sorting Algorithm** | **Best Case** | **Average Case** | **Worst Case** | **In-situ?** | **Stable?** | **Adaptive?** |
| **Insertion Sort** |  |  |  | ✅ | ✅ | ✅ |
| **Selection Sort** |  |  |  | ✅ | ❌ | ❌ |
| **Merge Sort** |  |  |  | ❌ | ✅ | ❌ |
| **Heap Sort** |  |  |  | ✅ | ❌ | ✅ / ❌ |
| **Quick Sort** |  |  |  | ✅ | ❌ | ❌ |
| **Bubble Sort** |  |  |  | ✅ | ✅ | ✅ |
| **Counting Sort** |  |  |  | ❌ | ✅ | - |
| **Radix Sort** |  |  |  | ❌ | ✅ | - |
| **Bucket Sort** |  |  |  | ❌ | ✅ | - |