CS222 - Algorithm Design

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# *Assignment – 4: Fibonacci numbers using repeated squaring of a matrix*

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*Graphical user interface, text, application, Word

Description automatically generated*

* The first 40 numbers Fibonacci sequence are :

0 1 1 2 3 5 8 13 21 34 55 89 144 233 377 610 987 1597 2584 4181 6765 10946 17711 28657 46368 75025 121393 196418 317811 514229 832040 1346269 2178309 3524578 5702887 9227465 14930352 24157817 39088169 63245986

* The time complexity of multiplication of two integers of N bits is M(N).
* **n**  : represents the n in ***n****th Fibonacci Number.*
* The Time Complexity of our function that computes the Fibonacci number by repeatedly squaring matrix in terms of is