

EXPLORING FIBONACCI NUMBERS USING MATLAB

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***Abstract:** In this paper author is going to explore a very interesting sequence of numbers known as the Fibonacci sequence. The exploration of the sequence can lead to a creative classroom activity for students at the college level. Students can explore many patterns within the sequence using software like MATLAB, and the observations can lead to an enriching discussion in the classroom. This paper for advanced undergraduates and graduate students surveys the use of Fibonacci numbers in areas of mathematics and computer science. There are numerous examples of Fibonacci numbers and the golden ratio in nature which students can explore in the form of a project.*

***Key words:** recursion, Fibonacci numbers, Golden ratio, MATLAB*