1003-X1-702   **Prashant S. Sansgiry*** (`sansgirp@coastal.edu`), Department of Mathematics and Statistics, Coastal Carolina University, Conway, SC 29528. *On an Extension of Fibonacci like Sequences and Some of Their Properties.* Preliminary report.

The Fibonacci numbers are generated by using the following recursive relationship $f(n + 1) = f(n) + f(n - 1)$, where $n = 1, 2, 3 \ldots$ and $f(0) = f(1) = 1$. In this presentation, we analyze the recursive relationship of the form $a(n + 1) = a(n) + a(n - k + 1)$ for $k = 2, 3, 4 \ldots$ and $n = k - 1, k, k + 1, \ldots$. The starting values are $a(0) = a(1) = a(2) = \ldots = a(k - 1) = 1$. The ratios of consecutive numbers satisfy similar characteristics as the golden ratio of the Fibonacci numbers. We also present (i) a way to generate the a(n)'s by modifying Pascal's triangle and (ii) an extension of the identity $f(n) * f(n) - f(n - 1) * f(n + 1) = (-1)n$ of the Fibonacci numbers that is satisfied by these sequences. (Received September 28, 2004)

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