PROBLEM OF THE WEEK 13
Due Wednesday, January 23 at 5:00 pm

Question. Let F_n be the Fibonacci sequence with $F_0 = 0, F_1 = 1$ and $F_n = F_{n-1} + F_{n-2}$ for all $n \geq 2$. Prove the following identity for all $n \geq 0$, where $\binom{n}{k}$ denotes the binomial coefficient:

$$\sum_{k=0}^{n} \binom{n}{k} F_k = F_{2n}.$$

- All answers should be clearly explained. Submit it to the Math/Stat Office, AMB 107.

- If your instructor gives you credit for POTW, write his/her name with the class number.

- Contact Bahattin Yildiz with questions: bahattin.yildiz@nau.edu (AMB 134)

- The problems are available online at https://naumathstat.github.io/problem-of-the-week/