Problem 7 (due Monday, December 4)

Find the smallest positive integer which cannot be expressed as a sum of 2023 or fewer Fibonacci numbers (not necessarily distinct). Recall that the Fibonacci numbers f_n are defined recursively as follows: $f_1=f_2=1$, $f_{n}=f_{n-1}+f_{n-2}$ for all $n>2$.

Only one solution was submitted, by Sasha Aksenchuk. The answer to the problem is that $f_{4049}-1$ is the smallest positive integer which is not a sum of fewer that 2024 Fibonacci numbers. For a detailed solution see the following link Solution.