MATHEMATICA, 64 (87), N° 1, 2022, pp. 34–38

ON A CONJECTURE OF AYAD AND KIHEL

ZOULIKHA BELBARGAT

Abstract. In this paper,we will prove some cases of the conjecture by Ayad and Kihel about Catalan pseudoprimes and generalize a result by the author.

MSC 2010. 11A07.
Key words. Catalan number, pseudoprime.

REFERENCES

[1] C. Aebi and G. Cairns, *Catalan numbers, primes, and twin primes*, Elem. Math., **63** (2008), 153–164.
[2] M. Ayad and O. Kihel, *Recognizing the primes using permutations*, Int. J. Number Theory, **8** (2012), 2045–2057.
[3] Z. Belbargat, *On the Catalan pseudoprimes*, J. Comb. Number Theory, **6** (2014), 63–66.
[4] T.X. Cai and A. Granville, *On the residues of binomial coefficients and their products modulo prime powers*, Acta Math. Sin. (Engl. Ser.), **18** (2002), 277–288.
[5] E. Lucas, Amer. J. Math., **1** (1897), 229–230.
[6] N.J.A. Sloane, *The On-Line Encyclopedia of Integer Sequences*, https://oeis.org.

Received July 5, 2020
Accepted March 16, 2021

University of Oran1, Ahmed Benbella
Department of Mathematics
Laboratory of mathematics
and its applications(LAMAP)
Oran, Algeria
E-mail: b.zoulikha@live.fr
https://orcid.org/0000-0003-1705-9538

The authors thank the referee for his helpful comments and suggestions.

DOI: 10.24193/mathcluj.2022.1.05