

1077-00-910

Pamela E Harris* (peharris@uwm.edu), Department of Mathematical Sciences, EMS Building, Room E403, P.O. Box 413, Milwaukee, WI 53201-0413. *On the adjoint representation of \mathfrak{sl}_n and the Fibonacci numbers.*

We decompose the adjoint representation of $\mathfrak{sl}_{r+1} = \mathfrak{sl}_{r+1}(\mathbb{C})$ by a purely combinatorial approach based on the introduction of a certain subset of the Weyl group called the *Weyl alternation set* associated to a pair of dominant integral weights. The cardinality of the Weyl alternation set associated to the highest root and zero weight of \mathfrak{sl}_{r+1} is given by the r^{th} Fibonacci number. We then obtain the exponents of \mathfrak{sl}_{r+1} from this point of view. (Article to appear in *Comptes rendus Mathematique*) (Received September 14, 2011)