

# On the regular semisimple elements and primary classes of $GL(n, q)$

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In this talk we count the number of regular semisimple elements, together with the number of primary classes of the general linear group  $GL(n, q)$ . The approach used to count these numbers depends essentially on partitions of positive integers  $\leq n$ . We list the numbers of regular semisimple elements and primary classes of  $GL(n, q)$  for  $n \in \{1, 2, \dots, 6\}$  and see that the number of regular semisimple elements is an integral polynomial in  $q$ , while the number of primary classes is a rational polynomial in  $q$ .