1012-11-11 **Hung-ping Tsao*** (hptsao@hotmail.com), 1151 Highland Drive, Novato, CA 94949. *Sums of powers of sequential numbers in terms of general Stirling's numbers.*

For a sequence (a(n)), let T(n,k) denote the sum of all products of k elements in the set a(1), a(2), a(3), ... , a(n). Define V(n,0)=T(n,0)=1, V(n,1)=T(n,1), V(n,2)=v(n,1)T(n-1,1)-T(n,2), V(n,3)=V(n,2)T(n-2,1)-V(n,1)T(n-1,2)+T(n,3), ... Then T(n,k) and V(n,k), satisfying T(n,k)=a(n)T(n-1,k-1)+T(n-1,k) and V(n,k)=a(n-k+1)V(n-1,k-1)+V(n-1,k), are called Stirling's numbers of the first and second kind over (a(n)), respectively. In addition to obtaining the polynomial expression for the sum of the kth powers of an arithmetic progression in terms of Stirling's numbers of the second kind over (a+(n-1)d), we also investigated the sum of the kth powers of a progressive progression. (Received May 26, 2005)