

Abstract

Let $Y_{k,n}$ denote the n th (upper) k -record value of an infinite sequence of independent, identically distributed random variables with common continuous distribution function F . We show that if the n th k -record value $Y_{k,n}$ has an increasing failure rate (IFR), then $Y_{l,n}$ ($l < k$) and $Y_{k+1,n+1}$ ($n \leq k+1$) also have IFR distributions. On the other hand, if $Y_{k,n}$ has a decreasing failure rate (DFR), then $Y_{l,n}$ ($l > k$) has also a DFR distribution. We also present some results concerning log convexity and log concavity of $Y_{k,n}$.