Dear All,

The proof of the Markov's inequality using indicator function is

the following :

Note that for any \epsilon > 0, we have

h(X) > \epsilon\times 1\_{h(x) > \epsilon}, and that implies that

(after taking Expectation in both sides)

E[h(x)] > \epsilon P[h(X) > \epsilon] (since h(X) is non-negative,

\epsilon is a positive constant, and hence, the expectation will

preserve the inequality sign). The last fact directly implies that

P[h(X) > \epsilon] < E[h(X)]/\epsilon. (it is the statement of

Markov's inequality).

Best wishes,