Answer on Question#39205 - Math - Other

On a system using round robin scheduling let t represents the time needed to to perform a process switch, q represents the round robin time quantum and p represents the average time a process runs before blocks on input. Give a formula for CPU efficiency if $t<q<p$.

Solution

Since $q<p$, each run of p requires p/q process switches, resulting in overhead of $\frac{tp}{q}$ and therefore, the efficiency is $\frac{p}{(p+tp/q)} = \frac{q}{q+t}$.

Answer: $\frac{q}{q+t}$.