

A MOHAMMAD'S Formula $= \frac{1}{\frac{s + (1-s)}{N}}$

(a) 40% Parallel
8 case 60% in series

(i) Speed up $= \frac{1}{\frac{(0.6) + \frac{(0.4)}{8}}{8}} = 1.53$

16 case

(ii) Speed up $= \frac{1}{\frac{(0.6) + \frac{0.4}{16}}{16}} = 1.60$

(b) 67% in Parallel
33% in series

(i) Speed up $= \frac{1}{\frac{0.33 + \frac{(1-0.33)}{2}}{2}} = 1.50$

(ii) Speed up $= \frac{1}{\frac{0.33 + \frac{(1-0.33)}{4}}{4}} = 2.01$

(c) 90 Percent Parallel 10% series

(i) Speed up $= \frac{1}{\frac{0.1 + \frac{(1-0.1)}{4}}{4}} = 3.08$

(ii) Speed up $= \frac{1}{\frac{0.1 + \frac{(1-0.1)}{8}}{8}} = 4.7$