

- The spreadsheet attached at the end of this assignment shows the results of applying MVA for a closed, three-class product form queueing network with job classes A, B, and C. For which of the following job populations with three total jobs is the total system throughput (the sum of the throughputs for all job classes) greatest?

2A,1B,0C
 0A,1B,2C
 1A,1B,1C

This is simply a matter of completing three more columns of the MVA table, one for each of these populations. The columns are shown below. Note that you do not need to compute the queue lengths, which simplifies the computation.

	2A,1B,0C	0A,1B,2C	1A,1B,1C
R1A	18.7007		16.5957
R1B	8.5893	6.8692	7.6960
R1C		13.2766	14.9606
R2A	4.8585		5.4010
R2B	7.0818	8.5692	7.7805
R2C		16.2029	14.5754
XA	0.0459		0.0238
XB	0.0638	0.0648	0.0646
XC		0.0336	0.0168

The total throughput for 2A,1B,0C is $0.0459 + 0.0638 = 0.1097$.
 The total throughput for 0A,1B,2C is $0.0459 + 0.0638 = 0.0984$.
 The total throughput for 1A,1B,1C is $0.0459 + 0.0638 = 0.1052$.

The total system throughput is greatest for 2A,1B,0C.