

Raw Data Set

buffer upper limit 10			periodic Tp 10	periodic Tp 12
Process time fixed 10 all machines			mobile Av 10	mobile Av 10
	Always ON	OFF - OB 9-5	tutto variabile	tutto variabile
	Last Run	Base Run	Last Run	Last Run
	Trial Average	Trial Average	Trial Average	Trial Average
End 1.Average Time in System	1.11497	1.74268	1.81139	1.75423
Queue for machine2.Average Queue Size	9.93104	5.94032	5.5544	5.57955
machine2.Waiting %	0	0	0	0
machine2.Working %	76.94899	76.59656	76.65994	76.65588
machine2.Blocked %	23.05101	0	0	0
machine2.Stopped %	0	23.40344	23.34006	23.34412
Queue for machine3.Average Queue Size	9.9332	5.93614	5.55708	5.5623
machine1.Waiting %	0.00347	0.00347	0.00347	0.00347
machine1.Working %	76.98372	76.49184	76.54265	76.53697
machine1.Blocked %	23.01281	0	0	0
machine1.Stopped %	0	23.50469	23.45388	23.45956
machine3.Waiting %	0	0	0	0
machine3.Working %	76.91427	76.70009	76.77803	76.77468
machine3.Blocked %	23.08573	0	0	0
machine3.Stopped %	0	23.29991	23.22197	23.22532
Queue for machine4.Average Queue Size	9.93532	6.21653	5.721	5.63771
machine4.Waiting %	0	0	0	0
machine4.Working %	76.87955	76.79555	76.89091	76.88985
machine4.Blocked %	23.12045	0.02106	0	0
machine4.Stopped %	0	23.18339	23.10909	23.11015
Final Inventory.Average Queue Size	8.63987	5.51436	5.57173	5.80446
Customer.Average Queue Size	0.00895	0.05759	0.06332	0.05879
Customer.Maximum Queue Size	2.46692	5.71913	5.84966	5.65915
Customer.Average Queuing Time	0.11497	0.74267	0.81138	0.75422
Customer.St Dev of Queuing Time	1.0133	4.30746	4.55892	4.3254
End 1.Number Completed	2214.75348	2215.63253	2218.32118	2218.04762
End 1.St Dev of	1.02446	4.30761	4.55979	4.32575
database[5,2].Value	8.59248	5.4756	5.5877	5.77068
database[15,2].Value	9.93926	6.20187	5.6754	5.58647
database[25,2].Value	9.93926	5.91691	5.48724	5.45063
database[35,2].Value	9.93926	5.89532	5.46788	5.45388
Work in process [WIP]	38.43943	23.60735	22.40421	22.58402
total time working	88625.2406	88296.2035	88379.00064	88374.92544
total time waiting+blocked	26574.7594	7.06464	0.99936	0.99936
total time stopped	0	26896.7318	26820	26824.0752
Total energy consumption [Kj]	8271.26203	7358.25245	7364.950032	7364.610432

buffer upper limit 10	periodic Tp 14	periodic TP 16	periodic Tp 18	periodic Tp 20
Process time fixed 10 all machines	mobile Av 10	mobile Av 10	mobile Av 10	mobile Av 10
	tutto variabile	tutto variabile	tutto variabile	tutto variabile
	Last Run	Last Run	Last Run	Last Run
	Trial Average	Trial Average	Trial Average	Trial Average
End 1.Average Time in System	1.69621	1.63479	1.53916	1.57541
Queue for machine2.Average Queue Size	5.60567	5.6199	5.61369	5.588
machine2.Waiting %	0	0	0	0
machine2.Working %	76.66018	76.67069	76.59352	76.68982
machine2.Blocked %	0	0	0	0
machine2.Stopped %	23.33982	23.32931	23.40648	23.31018
Queue for machine3.Average Queue Size	5.54983	5.54648	5.52779	5.51042
machine1.Waiting %	0.00347	0.00347	0.00347	0.00347
machine1.Working %	76.54143	76.5516	76.47471	76.57076
machine1.Blocked %	0	0	0	0
machine1.Stopped %	23.45509	23.44493	23.52182	23.42577
machine3.Waiting %	0	0	0	0
machine3.Working %	76.78052	76.79165	76.71451	76.8105
machine3.Blocked %	0	0	0	0
machine3.Stopped %	23.21948	23.20835	23.28549	23.1895
Queue for machine4.Average Queue Size	5.63642	5.61408	5.63405	5.7971
machine4.Waiting %	0	0	0	0
machine4.Working %	76.8947	76.9069	76.82838	76.91873
machine4.Blocked %	0	0	0	0
machine4.Stopped %	23.1053	23.0931	23.17162	23.08127
Final Inventory.Average Queue Size	5.99195	6.17203	6.33361	6.4291
Customer.Average Queue Size	0.05428	0.04947	0.04196	0.0448
Customer.Maximum Queue Size	5.489	5.2654	4.93144	5.11111
Customer.Average Queuing Time	0.6962	0.63478	0.53916	0.5754
Customer.St Dev of Queuing Time	4.08872	3.82136	3.41461	3.57371
End 1.Number Completed	2217.98533	2218.22038	2215.69064	2218.27407
End 1.St Dev of	4.08887	3.82151	3.41528	3.57526
database[5,2].Value	5.82861	6.0519	6.30702	6.29185
database[15,2].Value	5.57628	5.57844	5.62592	5.79358
database[25,2].Value	5.45208	5.44739	5.45	5.44543
database[35,2].Value	5.44694	5.44479	5.45452	5.44642
Work in process [WIP]	22.78387	22.95249	23.10914	23.32462
total time working	88380.52704	88393.20192	88304.00256	88413.06528
total time waiting+blocked	0.99936	0.99936	0.99936	0.99936
total time stopped	26818.47072	26805.79872	26894.99808	26785.93536
Total energy consumption [Kj]	7365.077232	7366.133472	7358.700192	7367.788752

buffer upper limit 10	periodic Tp 18	periodic Tp 18	periodic Tp 18	periodic Tp 18
Process time fixed 10 all machines	mobile Av 12	mobile Av 14	mobile Av 16	mobile Av 18
	tutto variabile	tutto variabile	tutto variabile	tutto variabile
	Last Run	Last Run	Last Run	Last Run
	Trial Average	Trial Average	Trial Average	Trial Average
End 1.Average Time in System	1.46538	1.43893	1.38575	1.40895
Queue for machine2.Average Queue Size	5.57377	5.54817	5.50218	5.48354
machine2.Waiting %	0	0	0	0
machine2.Working %	76.6103	76.6158	76.5796	76.68561
machine2.Blocked %	0	0	0	0
machine2.Stopped %	23.3897	23.3842	23.4204	23.31439
Queue for machine3.Average Queue Size	5.49779	5.49499	5.48014	5.47504
machine1.Waiting %	0.00347	0.00347	0.00347	0.00347
machine1.Working %	76.49104	76.49635	76.45974	76.56601
machine1.Blocked %	0	0	0	0
machine1.Stopped %	23.50549	23.50018	23.53679	23.43052
machine3.Waiting %	0	0	0	0
machine3.Working %	76.73046	76.73662	76.70103	76.80588
machine3.Blocked %	0	0	0	0
machine3.Stopped %	23.26954	23.26338	23.29897	23.19412
Queue for machine4.Average Queue Size	5.63755	5.64829	5.62697	5.62925
machine4.Waiting %	0	0	0	0
machine4.Working %	76.84533	76.85064	76.8156	76.91986
machine4.Blocked %	0	0	0	0
machine4.Stopped %	23.15467	23.14936	23.1844	23.08014
Final Inventory.Average Queue Size	6.56718	6.73315	6.90115	6.97369
Customer.Average Queue Size	0.0361	0.03419	0.03006	0.03195
Customer.Maximum Queue Size	4.69499	4.56143	4.35897	4.33679
Customer.Average Queuing Time	0.46538	0.43892	0.38574	0.40894
Customer.St Dev of Queuing Time	3.0728	2.951	2.70138	2.74716
End 1.Number Completed	2215.96007	2215.94881	2214.80837	2217.69689
End 1.St Dev of	3.07458	2.9537	2.70398	2.75079
database[5,2].Value	6.4925	6.59727	6.80449	6.80843
database[15,2].Value	5.62362	5.62177	5.62314	5.63112
database[25,2].Value	5.45285	5.46051	5.44855	5.45423
database[35,2].Value	5.44803	5.45734	5.44484	5.45725
Work in process [WIP]	23.27629	23.4246	23.51044	23.56152
total time working	88323.0134	88329.4301	88288.11936	88409.47968
total time waiting+blocked	0.99936	0.99936	0.99936	0.99936
total time stopped	26875.9872	26869.5706	26910.88128	26789.52096
Total energy consumption [Kj]	7360.28443	7360.81915	7357.376592	7367.489952

buffer upper limit 10			periodic Tp 18	
Process time UNIF[8-12] all machines			mobile Av 16	
	Always ON	OFF/ON 9-5	tutto variabile	
	Last Run	Last Run	Last Run	
	Trial Average	Trial Average	Trial Average	
End 1.Average Time in System	1.14902	1.83217	1.46194	
Queue for machine2.Average Queue Size	9.84028	5.99085	5.87409	
machine2.Waiting %	0	0	0	
machine2.Working %	76.94196	76.70377	76.72759	
machine2.Blocked %	23.05804	0	0	
machine2.Stopped %	0	23.29623	23.27241	
Queue for machine3.Average Queue Size	9.81556	6.02008	5.83413	
machine1.Waiting %	0.00347	0.00347	0.00347	
machine1.Working %	76.97536	76.59621	76.61748	
machine1.Blocked %	23.02117	0	0	
machine1.Stopped %	0	23.40032	23.37905	
machine3.Waiting %	0	0.00003	0	
machine3.Working %	76.92211	76.79989	76.82736	
machine3.Blocked %	23.07789	0	0	
machine3.Stopped %	0	23.20008	23.17264	
Queue for machine4.Average Queue Size	9.753	6.13742	5.85796	
machine4.Waiting %	0	0.00002	0	
machine4.Working %	76.90355	76.90019	76.9459	
machine4.Blocked %	23.09645	0.02093	0	
machine4.Stopped %	0	23.07886	23.0541	
Final Inventory.Average Queue Size	8.60894	5.48635	6.84445	
Customer.Average Queue Size	0.01161	0.06469	0.03602	
Customer.Maximum Queue Size	2.61161	5.97021	4.60274	
Customer.Average Queuing Time	0.14901	0.83224	0.46205	
Customer.St Dev of Queuing Time	1.21298	4.6816	3.03831	
End 1.Number Completed	2215.06696	2218.4617	2218.31735	
End 1.St Dev of	1.22056	4.68144	3.03923	
database[5,2].Value	8.57589	5.56191	6.80708	
database[15,2].Value	9.77366	6.12404	5.79866	
database[25,2].Value	9.81205	5.92532	5.85588	
database[35,2].Value	9.85714	5.9383	5.84375	
Work in process [WIP]	38.01778	23.6347	24.41063	
total time working	88629.9782	88416.0173	88450.07904	
total time waiting+blocked	26570.0218	7.0416	0.99936	
total time stopped	0	26776.9411	26748.9216	
Total energy consumption [Kj]	8271.49891	7368.23616	7370.873232	

buffer upper limit 10			periodic Tp 18
Process time 10 for 1 and 2 machines			mobile Av 16
Process time machine 3 between 10 and 13 every 1000 unit time	Always ON	OFF/ON 9-5	tutto variabile
	Last Run	Last Run	Last Run
	Trial Average	Trial Average	Trial Average
End 1.Average Time in System	1.56034	4.68507	4.05436
Queue for machine2.Average Queue Size	9.93335	5.94106	5.53014
machine2.Waiting %	0	0	0
machine2.Working %	76.97574	76.58812	76.58046
machine2.Blocked %	23.02426	0	0
machine2.Stopped %	0	23.41188	23.41954
Queue for machine3.Average Queue Size	9.93551	6.50827	5.76121
machine1.Waiting %	0.00347	0.00347	0.00347
machine1.Working %	77.01046	76.48211	76.45988
machine1.Blocked %	22.98607	0	0
machine1.Stopped %	0	23.51442	23.53665
machine3.Waiting %	0	0	0
machine3.Working %	87.39592	87.06899	87.15915
machine3.Blocked %	12.60408	0	0
machine3.Stopped %	0	12.93101	12.84085
Queue for machine4.Average Queue Size	7.69447	4.18102	4.04311
machine4.Waiting %	0.75027	2.71041	2.56975
machine4.Working %	76.92166	76.7937	76.81487
machine4.Blocked %	22.32807	0.02099	0
machine4.Stopped %	0	20.4749	20.61538
Final Inventory.Average Queue Size	8.47045	5.08815	5.99554
Customer.Average Queue Size	0.04381	0.28601	0.23787
Customer.Maximum Queue Size	4.06315	10.20503	9.30562
Customer.Average Queuing Time	0.56032	3.685	3.05428
Customer.St Dev of Queuing Time	3.13879	13.57897	11.8169
End 1.Number Completed	2215.95525	2215.65043	2215.41447
End 1.St Dev of	3.14552	13.57916	11.81696
database[5,2].Value	8.59005	5.40173	6.10758
database[15,2].Value	9.42601	5.77392	5.34913
database[25,2].Value	9.9371	6.08743	5.5754
database[35,2].Value	9.9371	5.82278	5.42083
Work in process [WIP]	36.03378	21.7185	21.33
total time working	91671.4886	91276.681	91300.13568
total time waiting+blocked	23528.5114	787.64256	741.08736
total time stopped	0	23135.6765	23158.77696
Total energy consumption [Kj]	8423.57443	7632.64483	7633.047552

buffer upper limit 10			periodic Tp 18
Process time 10 for 1 and 2 machines			mobile Av 16
Process time machine 3 between 10 and 13 every 500 unit time	Always ON	OFF/ON 9-5	tutto variabile
	Last Run	Last Run	Last Run
	Trial Average	Trial Average	Trial Average
End 1.Average Time in System	1.31465	3.2709	2.56394
Queue for machine2.Average Queue Size	9.93597	5.94341	5.52045
machine2.Waiting %	0	0	0
machine2.Working %	76.88092	76.53691	76.55922
machine2.Blocked %	23.11908	0	0
machine2.Stopped %	0	23.46309	23.44078
Queue for machine3.Average Queue Size	9.93805	6.56763	5.9882
machine1.Waiting %	0.00347	0.00347	0.00347
machine1.Working %	76.91564	76.42773	76.4367
machine1.Blocked %	23.08088	0	0
machine1.Stopped %	0	23.5688	23.55982
machine3.Waiting %	0	0	0
machine3.Working %	87.34261	87.03711	87.17596
machine3.Blocked %	12.65739	0	0
machine3.Stopped %	0	12.96289	12.82404
Queue for machine4.Average Queue Size	8.02095	4.32187	4.33337
machine4.Waiting %	0.27577	1.64988	1.40435
machine4.Working %	76.90821	76.7795	76.82474
machine4.Blocked %	22.81601	0.02116	0
machine4.Stopped %	0	21.54946	21.77091
Final Inventory.Average Queue Size	8.57401	5.27302	6.42437
Customer.Average Queue Size	0.02462	0.17663	0.12184
Customer.Maximum Queue Size	3.03709	8.06965	6.82609
Customer.Average Queuing Time	0.31465	2.27086	1.56394
Customer.St Dev of Queuing Time	1.87043	9.16723	6.99609
End 1.Number Completed	2215.64307	2215.39417	2215.56109
End 1.St Dev of	1.88044	9.16735	6.9975
database[5,2].Value	8.54724	5.27057	6.35357
database[15,2].Value	7.35583	4.17775	4.2381
database[25,2].Value	9.9422	6.52122	5.96563
database[35,2].Value	9.9422	5.82311	5.45024
Work in process [WIP]	36.46898	22.10593	22.26639
total time working	91597.6454	91233	91295.02656
total time waiting+blocked	23602.3488	482.25888	405.45216
total time stopped	0	23484.7411	23499.5184
Total energy consumption [Kj]	8419.88208	7618.8253	7621.433952