

Assignment: JSSP using Simulated Annealing algorithm.

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Course: CSE-17

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Statistics Generation Process:

In this problem at first a particular dataset is loaded from text file into the memory, for fixed value of T_0 , α and k , algorithm is run for 10 times to get the average delay and minimum delay. Then for a fixed dataset same process is repeated and the values of average delay and minimum delay is recorded by varying the values of the parameters. It is the process what is done for one dataset. Same process is repeated for 9 other datasets.

Here datasets are generated by dataset_generator.cpp code where each dataset consisting of 500 jobs. Dataset generator code randomly sets processing time and deadline for each job.

As each dataset contains 500 job, as a whole 10 datasets contain 5000 jobs.

Statistics of the whole work is shown below:

dataset	initial Temperature	alpha	k	Average delay	Min Delay
dataset_0.tx t	6	0.5	41	5492060	5467680
dataset_0.tx t	8	0.55	222	5478371	5408029
dataset_0.tx t	10	0.6	358	5475986	5458518
dataset_0.tx t	12	0.65	449	5469708	5436562
dataset_1.tx t	6	0.5	250	6024617	5994856
dataset_1.tx t	8	0.55	261	6029126	6008153
dataset_1.tx t	10	0.6	89	6009957	5977655
dataset_1.tx t	12	0.65	124	6004440	5979888
dataset_2.tx t	6	0.5	226	6182572	6143227
dataset_2.tx t	8	0.55	341	6167652	6143953
dataset_2.tx t	10	0.6	429	6157235	6118535
dataset_2.tx t	12	0.65	60	6152766	6098902
dataset_3.tx t	6	0.5	359	5687955	5665889
dataset_3.tx t	8	0.55	139	5673967	5648492
dataset_3.tx t	10	0.6	444	5668267	5613831
dataset_3.tx t	12	0.65	110	5674787	5656115
dataset_4.tx t	6	0.5	464	5885031	5852710
dataset_4.tx t	8	0.55	379	5879801	5858854
dataset_4.tx t	10	0.6	91	5866814	5831162
dataset_4.tx t	12	0.65	154	5864864	5836592
dataset_5.tx t	6	0.5	87	5851924	5838568
dataset_5.tx t	8	0.55	49	5833454	5814804
dataset_5.tx t	10	0.6	159	5821920	5773958
dataset_5.tx t	12	0.65	378	5828081	5795191

dataset_6.tx t	6	0.5	420	5683491	5657665
dataset_6.tx t	8	0.55	339	5662097	5630669
dataset_6.tx t	10	0.6	186	5676850	5635107
dataset_6.tx t	12	0.65	347	5666148	5630225
dataset_7.tx t	6	0.5	185	5872903	5848947
dataset_7.tx t	8	0.55	438	5862356	5836054
dataset_7.tx t	10	0.6	478	5853675	5802363
dataset_7.tx t	12	0.65	173	5846824	5790782
dataset_8.tx t	6	0.5	434	5733943	5702324
dataset_8.tx t	8	0.55	235	5707757	5679767
dataset_8.tx t	10	0.6	227	5713328	5688008
dataset_8.tx t	12	0.65	233	5704509	5679861
dataset_9.tx t	6	0.5	476	5856181	5822084
dataset_9.tx t	8	0.55	53	5848864	5795302
dataset_9.tx t	10	0.6	422	5835843	5800522
dataset_9.tx t	12	0.65	128	5836033	5787072