

Run_Log(s) --- Version 2006a

(What you need to log from your local search runs are just these Run_Log information)

Line	Example	Field Name	Remarks
1.	2006a	Format_Version	String: 2006a, Viz will reject old version of the RunLogs
2.	TSP	Problem_Name	String: Abbreviated Version Only [TSP, QAP, etc]
3.	1	Is_Minimizing	Integer-Boolean [0: False; 1: True]
4.	lin105	Instance_Name	String: Just the instance name, full path is not required
5.	105	Instance_Size	Integer
6.	TS	Solver_Name	String: Abbreviated Version Only [TS, ILS, SA, etc]
7.	Strict TS with Tabu Tenure = 40	Run_Description	String: can be as long as you want, but must be in one line
8.	1500	Number_of_Entries	Integer: the lines in red below will be repeated <i>Number_of_Entries</i> times
9.		Dummy1	Empty Line, Reserved for future version of Viz
10.	0,1,2,...,104,	Solution	Comma-separated Integers
11.	1	Is_Feasible	Integer-Boolean [0: Infeasible; 1: Feasible]
12.	7327.000000	Objective_Value	Double
13.	0.435000	Time_Stamp	Double: use a timer inside your local search algorithm, or leave this as 0.0 if not needed
14.	"Tag"	Tag	String: to tag what action is done during this iteration, leave this as "" if not needed
15.	20	ProblemSpecific1	For TS: Tabu_Tenure, ILS: Perturbation, SA: Temperature
16.		ProblemSpecific2	For TS : EmptyLine, ILS: Accept-1/Reject-0, SA: TossValue
17.		Dummy2	Empty Line, Reserved for future version of Viz

Viz Visual Data File --- Version 2006a

(Automatically Generated by Viz's Raw-to-Visual Data Conversion Wizard)

ID	Line	Example	Field Name	Remarks
A	1.	2006a	Format_Version	String: Version 2006a
A	2.	TSP	Problem_Name	String: Abbreviated Version Only [TSP, QAP, etc]
A	3.	1	Is_Minimizing	Integer-Boolean [0: False; 1: True]
A	4.	lin105	Instance_Name	String
A	5.	105	Instance_Size	Integer
A	6.	23471	BF_OV	Double: The OV of the best solution throughout RunLogs... May/May not be the GO
A	7.	10000.000000	AP_Spring_Tension	Double: The spring tension returned by the layout algorithm...
A	8.	100	AP_Size	Integer: Coordinates are computed by Conversion Wizard, AP are sorted based on OV
B	1.	0,1,2,...,104,	AP_Solution	Comma-separated Integers to represent the AP (no need to compress this)
B	2.	10,20,	AP_Coordinate[]	Comma-separated Integers to represent the coordinate {x,y} where we will layout this AP point.
B	3.	1	AP_Is_Feasible	Integer-Boolean [0: Infeasible; 1: Feasible]
B	4.	7327.000000	AP_OV	Double
B	5.	"0"	AP_Tag	String: to tag this AP
B	6.	2	AP_D_wrt_BF	Integer: for FDC
C	1.	2	Potential_AP_Size	Integer: computed by Conversion Wizard
C	2.	0.54	R_FD_Global	Double: computed by Conversion Wizard
C	3.	102.52,245.62	F	Comma-separated Doubles
C	4.	2,4	D	Comma-separated Integers
D	1.	1	Support_Visual_Comparison	Integer-Boolean: if false, Trajectory 2 will not be used
E	1.	TS	Solver_Name[0]	String: Abbreviated Version *Lines E.1 until G.7 are repeated for Trajectory 2*

E	2.	Strict TS with Tabu Tenure = 40	Run_Description[0]	String: can be as long as you want, but must be in one line
E	3.	2000	Max_OV[0]	Double: in Maximizing, this will be the BestFound for this run
E	4.	650	Average_OV[0]	Double
E	5.	100	Min_OV[0]	Double: in Minimizing, this will be the BestFound for this run
E	6.	200	Best_Iteration[0]	Integer: the iteration when the best found is found...
E	7.	8	Total_New_BF_Steps[0]	Integer: how many times the overall best found solution is updated...
E	8.	10,20,40,50,60,100,200,150	New_BF_Iteration[0][]	Comma-separated Integers of size Total_New_BF_Steps[0]
E	9.	0.567	R_FD[0]	Double: (FDC Ratio of Trajectory 1), computed by Viz
E	10.	30.5	Average_D[0]	Double: Average distance from best found done by Trajectory 1
E	11.	0	Current_Iteration[0]	Integer: the wizard will set this as 0, save to presentation file may override this value.
E	12.	0	Current_Time[0]	Double: the wizard will also set this as 0.
E	13.	1500	Number_of_Entries[0]	Integer: the lines {F.2..F.13} will be repeated <i>Number_of_Entries[0]</i> times
F	1.	0,1,2,...,104,	Solution[0][]	Comma-separated Integers --- the full initial solution
F	2.	2	Number_Of_Changes	Integer, the next line will contains a comma-separated integer of length 2*Number of Changes
F	3.	0,5,1,4,	List_Of_Changes	0,5,1,4; means put '5' in index 0, put '4' in index 1, the rest are the same as previous solution
F	4.	4	Closest_AP_ID	Which AP is the closest to the current solution?
F	5.	5	Closest_AP_Distance	What is the distance value for this solution w.r.t closest AP? (also see previous line)
F	6.	20,30,	Coordinate[0][]	Comma-separated Integers to represent the {x,y} coordinate where we will layout this point
F	7.	1	Is_Feasible[0][]	Integer-Boolean [0: Infeasible; 1: Feasible]
F	8.	8023.000000	OV[0][]	Double
F	9.	7234.000000	Best_So_Far [0][]	Double: best so far of this RunLog up to this iteration
F	10.	0.435000	Time_Stamp[0][]	Double
F	11.	"Tag"	Tag[0][]	String: to tag what action is done during this iteration
F	12.	10	D_wrt_BestAP[0][]	Integer: computed by Viz
F	13.	1	Probably_LO[0][]	Integer-Boolean [0: Infeasible; 1: Feasible]
X	1.	-	DUMMY_1	NOTHING
X	2.	-	DUMMY_2	NOTHING
X	3.	-	DUMMY_3	NOTHING
G	1.	1	Min_Tabu_Tenure[0]	Integer
G	2.	100	Max_Tabu_Tenure[0]	Integer
G	3.	50,80,70,...,10,	Tabu_Tenure[0][]	Comma-separated Integers
G	1.	1	Min_Perturbation[0]	Integer
G	2.	100	Max_Perturbation[0]	Integer
G	3.	50,80,70,...,10,	Perturbation[0][]	Comma-separated Integers
G	4.	1,0,1,...,0,1	ILS_New_LO[0][]	Comma-separated Integer-Booleans
G	1.	1	Min_Temperature[0]	Integer
G	2.	100	Max_Temperature[0]	Integer
G	3.	50,80,70,...,10,	Temperature[0][]	Comma-separated Integers
G	4.	1	Min_Toss_Value[0]	Integer
G	5.	100	Max_Toss_Value[0]	Integer
G	6.	50,80,70,...,10,	Toss_Value[0][]	Comma-separated Integers
Y	1.	-	DUMMY_1	NOTHING
Y	2.	-	DUMMY_2	NOTHING
Y	3.	-	DUMMY_3	NOTHING
H	1.	True	Problem_Specific_Supported	Boolean: which part is selected from the two sub-sections below depends on the Problem_Name
H	2.	1	TSP_Min_X	Integer

H	3.	10	TSP_Max_X	Integer
H	4.	1,4,...,10,	TSP_X[]	Comma-separated Integers
H	5.	3	TSP_Min_Y	Integer
H	6.	20	TSP_Max_Y	Integer
H	7.	4,3,...,20,	TSP_Y[]	Comma-separated Integers
H	2.	1	QAP_Max_A	Integer
H	3.	10	QAP_A[][]	2-D Integers
H	4.	1,4,...,10,	QAP_Max_B	Integer
H	5.	3	QAP_B[][]	2-D Integers
G	1.	10,20,30,	ST_Contour_Map[]	Comma-separated Integers: 3 items, low, medium, high
G	2.	1.0	ST_Zoom_Factor	Double
G	3.	250,250	ST_Shift[]	Comma-separated Integers: 2 items, horizontal and vertical shifts
G	4.	1	ST_Draw_Grid	Integer-Boolean
G	5.	10	ST_Grid_Size	Integer
G	6.	10	ST_Distance_Multiplier	Integer: Small distances are hard to layout...
G	7.	0	ST_Highlight_Mode	Integer-Boolean
G	8.	1	ST_Highlighted_AP	Integer
G	9.	0,0,	ST_Trail_Type[]	Comma-separated Integers for Trajectory 1 and 2
G	10.	77,77,	ST_Trail_Length[]	Comma-separated Integers for Trajectory 1 and 2
G	11.	77,77,	ST_Far_Distance	Integer: How far is defined as "far"...
H	1.	1	OV_Iterations_Per_Pixel	Integer
H	2.	10	OV_Delta_Fitness	Integer
H	3.	1	OV_Percentage	Integer-Boolean
H	4.	1	OV_Draw_Histogram	Integer-Boolean
H	5.	1	OV_Draw_Fluctuations	Integer-Boolean
H	6.	1	OV_Draw_BestFoundLine	Integer-Boolean
I	1.	10	FDC_Delta_Fitness	Integer
I	2.	1	FDC_Percentage	Integer-Boolean
J	1.	1	EB_New_Best_Found	Integer-Boolean
J	2.	50	EB_Number_Of_Non_Improving_Moves	Integer
J	3.	0	EB_Probably_Local_Optima	Integer-Boolean
J	4.	0	EB_Near_Set_Of_AP	Integer-Boolean
J	5.	0	EB_Has_Tag	Integer-Boolean
K	1.	0	PS_Draw_Highlighted_AP	Integer-Boolean
K	2.	0	PS_TSP_Draw_Vertex_ID	Integer-Boolean
L	1.	0	Playback_Mode	Integer
L	2.	1	Playback_Step_Increment	Integer
L	3.	10	Playback_Time_Increment	Integer
L	4.	400	Playback_Speed	Integer
L	5.	1	Playback_Linked	Integer-Boolean
M	1.	1,1,	Draw_Trajectory[]	Comma-separated Integers
M	2.	0,1,	Draw_Sequence[]	Comma-separated Integers
N	1.	255,255,255,255,	Color_BACKGROUND[]	Comma-separated Integers
N	2.	0,0,0,255,	Color_INVERTED[]	Comma-separated Integers
N	3.	255,0,0,255,	Color_TRAIL_1[]	Comma-separated Integers
N	4.	0,0,255,255,	Color_TRAIL_2[]	Comma-separated Integers

N	5.	0,0,255,255,	Color_GOOD[]	Comma-separated Integers
N	6.	0,255,0,255,	Color_MEDIUM[]	Comma-separated Integers
N	7.	255,255,0,255,	Color_BAD[]	Comma-separated Integers
O	1.	1	Juxtapose	Integer-Boolean
O	2.	1	Visualization_Active	Integer-Boolean
O	3.	0	Left	Integer
O	4.	0	Top	Integer
O	5.	640	Width	Integer
O	6.	480	Height	Integer
Z	1.	-	DUMMY_1	NOTHING
Z	2.	-	DUMMY_2	NOTHING
Z	3.	-	DUMMY_3	NOTHING

Notes:

1. This log file format supports “*generic visualizations*” in Viz: SearchTrajectory, ObjectiveValue, FitnessDistanceCorrelation, and EventBar, and 3 pre-defined Algorithm Specific information: TS (Tabu_Tenure), ILS (Perturbation, Accept/Reject), SA (Temperature, Toss_Value).
2. For ProblemSpecific visualization, we require additional file containing the test instance information. Currently, we only support TSPLIB (EUC_2D only) files for TSP and QAPLIB files for QAP.
3. This version 2006a will not be changed until Viz version 2 (which is planned for 2007). We will try to make Viz version 2 to be backwards compatible. The dummy lines in this version are reserved for possible (minor) future extensions (if any).