$f(x) = xe^x-1$ 

Significant digits 3
epsilon\_s 0.05

x_l	x_u	f(x_l)	f(x_u)	x_r	f(x_r)	epsilon_a	f(xl)f(xr)
0	1	-1	1.718282	0.5	-0.17564		0.175639
0.5	1	-0.17564	1.718282	0.75	0.58775	33.33333	-0.10323
0.5	0.75	-0.17564	0.58775	0.625	0.167654	20	-0.02945
0.5	0.625	-0.17564	0.167654	0.5625	-0.01278	11.11111	0.002245
0.5625	0.625	-0.01278	0.167654	0.59375	0.075142	5.263158	-0.00096
0.5625	0.59375	-0.01278	0.075142	0.578125	0.030619	2.702703	-0.00039
0.5625	0.578125	-0.01278	0.030619	0.570313	0.00878	1.369863	-0.00011
0.5625	0.570313	-0.01278	0.00878	0.566406	-0.00204	0.689655	2.6E-05
0.566406	0.570313	-0.00204	0.00878	0.568359	0.003364	0.343643	-6.8E-06
0.566406	0.568359	-0.00204	0.003364	0.567383	0.000662	0.172117	-1.3E-06
0.566406	0.567383	-0.00204	0.000662	0.566895	-0.00069	0.086133	1.4E-06
0.566895	0.567383	-0.00069	0.000662	0.567139	-1.3E-05	0.043048	8.77E-09