

Table S1.1. The median, mean, and standard deviation of the best fitness values obtained by EDA, MaT-EDA, AMaLGA, and MaT-AMaLGA over 30 independent runs on S1 in WCCI2020 single-objective many-tasking benchmark suite. “+”, “-”, and “≈” indicate that the corresponding result of MaT-EDA (or MaT-AMaLGA) is better than, similar to, and worse than that of EDA (or AMaLGA), respectively

Task	Stats.	EDA	MaT-EDA	AMaLGA	MaT-AMaLGA	Task	Stats.	EDA	MaT-EDA	AMaLGA	MaT-AMaLGA
T ₁	median	2.62e-01	8.66e-24 (+)	2.80e-01	7.67e-23 (+)	T ₂₆	median	2.63e-01	8.86e-24 (+)	2.73e-01	7.19e-23 (+)
	mean	2.63e-01	2.09e-23	2.80e-01	7.90e-23		mean	2.62e-01	2.08e-23	2.75e-01	7.96e-23
	std	2.36e-02	3.76e-23	2.35e-02	1.58e-23		std	2.71e-02	3.73e-23	2.29e-02	2.12e-23
T ₂	median	2.64e-01	8.86e-24 (+)	2.59e-01	7.56e-23 (+)	T ₂₇	median	2.72e-01	8.59e-24 (+)	2.70e-01	7.40e-23 (+)
	mean	2.62e-01	2.14e-23	2.63e-01	8.29e-23		mean	2.73e-01	6.21e-22	2.67e-01	7.41e-23
	std	3.02e-02	3.88e-23	2.78e-02	2.32e-23		std	2.80e-02	3.29e-21	3.32e-02	1.24e-23
T ₃	median	2.66e-01	8.85e-24 (+)	2.77e-01	7.81e-23 (+)	T ₂₈	median	2.80e-01	8.94e-24 (+)	2.76e-01	7.58e-23 (+)
	mean	2.70e-01	2.16e-23	2.79e-01	8.32e-23		mean	2.75e-01	2.16e-23	2.77e-01	8.05e-23
	std	2.24e-02	3.94e-23	2.84e-02	1.62e-23		std	2.37e-02	3.94e-23	2.39e-02	1.50e-23
T ₄	median	2.62e-01	9.16e-24 (+)	2.75e-01	7.68e-23 (+)	T ₂₉	median	2.64e-01	8.85e-24 (+)	2.74e-01	7.59e-23 (+)
	mean	2.66e-01	2.16e-23	2.81e-01	8.38e-23		mean	2.69e-01	2.10e-23	2.72e-01	8.03e-23
	std	2.51e-02	3.88e-23	2.82e-02	2.22e-23		std	2.53e-02	3.72e-23	2.03e-02	1.85e-23
T ₅	median	2.68e-01	8.61e-24 (+)	2.80e-01	7.73e-23 (+)	T ₃₀	median	2.74e-01	8.91e-24 (+)	2.84e-01	7.76e-23 (+)
	mean	2.68e-01	2.20e-23	2.76e-01	8.38e-23		mean	2.70e-01	2.16e-23	2.76e-01	7.97e-23
	std	2.14e-02	4.15e-23	2.14e-02	2.74e-23		std	2.36e-02	3.97e-23	2.39e-02	1.77e-23
T ₆	median	2.71e-01	8.83e-24 (+)	2.81e-01	8.12e-23 (+)	T ₃₁	median	2.68e-01	9.29e-24 (+)	2.76e-01	7.65e-23 (+)
	mean	2.68e-01	2.11e-23	2.79e-01	8.39e-23		mean	2.68e-01	3.48e-12	2.76e-01	8.28e-23
	std	3.20e-02	3.80e-23	2.71e-02	1.79e-23		std	1.66e-02	1.91e-11	3.24e-02	2.77e-23
T ₇	median	2.67e-01	8.64e-24 (+)	2.75e-01	8.00e-23 (+)	T ₃₂	median	2.68e-01	9.04e-24 (+)	2.86e-01	8.04e-23 (+)
	mean	2.66e-01	2.14e-10	2.76e-01	8.52e-23		mean	2.61e-01	3.20e-09	2.79e-01	8.84e-23
	std	2.64e-02	1.17e-09	2.67e-02	2.01e-23		std	3.22e-02	1.75e-08	2.79e-02	2.31e-23
T ₈	median	2.74e-01	8.90e-24 (+)	2.67e-01	7.97e-23 (+)	T ₃₃	median	2.78e-01	9.02e-24 (+)	2.79e-01	7.81e-23 (+)
	mean	2.70e-01	2.14e-23	2.69e-01	8.76e-23		mean	2.76e-01	2.13e-23	2.77e-01	7.92e-23
	std	2.24e-02	3.86e-23	2.27e-02	3.19e-23		std	2.37e-02	3.82e-23	1.95e-02	1.02e-23
T ₉	median	2.68e-01	8.62e-24 (+)	2.80e-01	8.03e-23 (+)	T ₃₄	median	2.79e-01	8.72e-24 (+)	2.94e-01	8.03e-23 (+)
	mean	2.69e-01	2.13e-23	2.81e-01	8.76e-23		mean	2.75e-01	2.15e-23	2.85e-01	8.22e-23
	std	2.81e-02	3.90e-23	2.94e-02	2.06e-23		std	2.50e-02	3.97e-23	3.01e-02	1.31e-23
T ₁₀	median	2.73e-01	8.91e-24 (+)	2.87e-01	8.29e-23 (+)	T ₃₅	median	2.65e-01	8.68e-24 (+)	2.73e-01	7.39e-23 (+)
	mean	2.70e-01	2.08e-23	2.78e-01	8.92e-23		mean	2.63e-01	2.14e-23	2.79e-01	8.07e-23
	std	2.65e-02	3.68e-23	2.41e-02	2.25e-23		std	2.83e-02	3.91e-23	2.55e-02	2.19e-23
T ₁₁	median	2.76e-01	9.14e-24 (+)	2.77e-01	7.60e-23 (+)	T ₃₆	median	2.63e-01	8.97e-24 (+)	2.87e-01	7.57e-23 (+)
	mean	2.73e-01	2.13e-23	2.70e-01	7.99e-23		mean	2.63e-01	2.13e-23	2.81e-01	7.81e-23
	std	2.63e-02	3.77e-23	2.61e-02	2.23e-23		std	2.32e-02	3.80e-23	2.56e-02	1.87e-23
T ₁₂	median	2.72e-01	8.88e-24 (+)	2.62e-01	7.54e-23 (+)	T ₃₇	median	2.66e-01	8.75e-24 (+)	2.86e-01	7.71e-23 (+)
	mean	2.67e-01	2.06e-23	2.64e-01	8.08e-23		mean	2.68e-01	2.11e-23	2.79e-01	8.21e-23
	std	3.14e-02	3.63e-23	3.00e-02	2.42e-23		std	2.49e-02	3.80e-23	3.80e-02	1.98e-23
T ₁₃	median	2.79e-01	8.86e-24 (+)	2.69e-01	7.77e-23 (+)	T ₃₈	median	2.77e-01	8.87e-24 (+)	2.73e-01	7.65e-23 (+)
	mean	2.79e-01	2.20e-23	2.69e-01	7.91e-23		mean	2.70e-01	2.16e-23	2.75e-01	8.59e-23
	std	2.24e-02	4.03e-23	2.85e-02	1.39e-23		std	2.72e-02	3.91e-23	2.32e-02	2.49e-23
T ₁₄	median	2.67e-01	9.10e-24 (+)	2.82e-01	7.18e-23 (+)	T ₃₉	median	2.77e-01	8.90e-24 (+)	2.65e-01	8.36e-23 (+)
	mean	2.71e-01	2.16e-23	2.79e-01	8.30e-23		mean	2.74e-01	2.18e-23	2.70e-01	8.58e-23
	std	2.29e-02	3.82e-23	3.11e-02	2.39e-23		std	2.90e-02	4.03e-23	2.70e-02	2.15e-23
T ₁₅	median	2.73e-01	8.71e-24 (+)	2.75e-01	7.08e-23 (+)	T ₄₀	median	2.62e-01	9.16e-24 (+)	2.78e-01	7.68e-23 (+)
	mean	2.70e-01	2.14e-23	2.74e-01	7.34e-23		mean	2.62e-01	2.37e-21	2.73e-01	8.02e-23
	std	3.16e-02	3.92e-23	2.41e-02	1.41e-23		std	2.87e-02	1.29e-20	2.35e-02	1.88e-23
T ₁₆	median	2.66e-01	8.81e-24 (+)	2.78e-01	7.95e-23 (+)	T ₄₁	median	2.75e-01	8.75e-24 (+)	2.90e-01	7.89e-23 (+)
	mean	2.71e-01	5.43e-11	2.79e-01	8.07e-23		mean	2.75e-01	1.31e-08	2.87e-01	8.38e-23
	std	2.81e-02	2.98e-10	2.38e-02	1.71e-23		std	2.53e-02	7.16e-08	2.40e-02	1.96e-23
T ₁₇	median	2.62e-01	8.92e-24 (+)	2.81e-01	7.62e-23 (+)	T ₄₂	median	2.68e-01	8.83e-24 (+)	2.64e-01	7.85e-23 (+)
	mean	2.63e-01	2.16e-23	2.77e-01	8.16e-23		mean	2.64e-01	1.59e-11	2.69e-01	8.31e-23
	std	2.64e-02	3.93e-23	2.74e-02	1.83e-23		std	2.23e-02	8.72e-11	2.83e-02	2.12e-23
T ₁₈	median	2.80e-01	8.70e-24 (+)	2.76e-01	7.71e-23 (+)	T ₄₃	median	2.74e-01	8.96e-24 (+)	2.72e-01	7.63e-23 (+)
	mean	2.72e-01	2.19e-23	2.41e-02	1.99e-23		mean	2.74e-01	1.86e-23	2.73e-01	8.33e-23
	std	2.98e-02	4.06e-23	2.77e-01	7.67e-23		std	2.30e-02	3.07e-23	2.96e-02	2.36e-23
T ₁₉	median	2.78e-01	9.04e-24 (+)	2.75e-01	7.92e-23 (+)	T ₄₄	median	2.71e-01	8.95e-24 (+)	2.82e-01	7.32e-23 (+)
	mean	2.75e-01	1.01e-13	2.77e-02	1.21e-23		mean	2.70e-01	2.16e-23	2.71e-01	8.06e-23
	std	2.36e-02	5.53e-13	2.78e-01	7.94e-23		std	2.88e-02	3.92e-23	3.30e-02	1.79e-23
T ₂₀	median	2.63e-01	9.14e-24 (+)	2.76e-01	8.25e-23 (+)	T ₄₅	median	2.77e-01	8.90e-24 (+)	2.79e-01	8.51e-23 (+)
	mean	2.62e-01	2.26e-23	2.76e-02	1.89e-23		mean	2.72e-01	2.70e-14	2.74e-01	9.33e-23
	std	3.39e-02	4.21e-23	2.79e-01	7.68e-23		std	3.33e-02	1.48e-13	3.29e-02	2.76e-23
T ₂₁	median	2.70e-01	8.74e-24 (+)	2.75e-01	8.44e-23 (+)	T ₄₆	median	2.73e-01	9.05e-24 (+)	2.75e-01	7.99e-23 (+)
	mean	2.65e-01	2.21e-23	2.50e-02	2.62e-23		mean	2.72e-01	2.14e-23	2.80e-01	8.14e-23
	std	2.66e-02	4.11e-23	2.75e-01	7.80e-23		std	2.81e-02	3.87e-23	2.32e-02	1.11e-23
T ₂₂	median	2.56e-01	9.00e-24 (+)	2.74e-01	8.44e-23 (+)	T ₄₇	median	2.75e-01	9.06e-24 (+)	2.74e-01	7.93e-23 (+)
	mean	2.55e-01	2.16e-23	2.20e-02	2.60e-23		mean	2.75e-01	2.13e-23	2.73e-01	8.45e-23
	std	2.94e-02	3.92e-23	2.81e-01	7.44e-23		std	2.34e-02	3.80e-23	4.39e-02	2.03e-23
T ₂₃	median	2.76e-01	8.60e-24 (+)	2.74e-01	7.73e-23 (+)	T ₄₈	median	2.74e-01	8.96e-24 (+)	2.79e-01	7.56e-23 (+)
	mean	2.72e-01	2.01e-23	3.54e-02	2.06e-23		mean	2.73e-01	7.23e-07	2.75e-01	8.12e-23
	std	2.84e-02	3.54e-23	2.77e-01	7.66e-23		std	2.72e-02	3.96e-06	3.55e-02	2.08e-23
T ₂₄	median	2.67e-01	9.07e-24 (+)	2.75e-01	8.08e-23 (+)	T ₄₉	median	2.66e-01	8.79e-24 (+)	2.79e-01	7.51e-23 (+)
	mean	2.66e-01	2.10e-23	2.93e-02	1.91e-23		mean	2.65e-01	2.19e-23	2.82e-01	7.97e-23
	std	2.29e-02	3.77e-23	2.84e-01	7.50e-23		std	2.60e-02	4.04e-23	2.84e-02	1.56e-23
T ₂₅	median	2.67e-01	8.87e-24 (+)	2.79e-01	7.79e-23 (+)	T ₅₀	median	2.73e-01	8.81e-24 (+)	2.81e-01	8.09e-23 (+)
	mean	2.65e-01	2.78e-15	3.60e-02	2.02e-23		mean	2.70e-01	9.04e-17	2.79e-01	8.91e-23
	std	2.59e-02	1.52e-14	2.76e-01	7.71e-23		std	2.43e-02	4.95e-16	2.46e-02	2.64e-23

Table S1.2. The median, mean, and standard deviation of the best fitness values obtained by EDA, MaT-EDA, AMaLGA, and MaT-AMaLGA over 30 independent runs on S2 in WCCI2020 single-objective many-tasking benchmark suite. “+”, “-”, and “≈” indicate that the corresponding result of MaT-EDA (or MaT-AMaLGA) is better than, similar to, and worse than that of EDA (or AMaLGA), respectively

Task	Stats.	EDA	MaT-EDA	AMaLGA	MaT-AMaLGA	Task	Stats.	EDA	MaT-EDA	AMaLGA	MaT-AMaLGA
T ₁	median	8.01e+01	1.25e+02 (≈)	7.04e+01	4.12e+01 (+)	T ₂₆	median	7.89e+01	6.79e+01 (≈)	7.07e+01	4.08e+01 (+)
	mean	8.08e+01	1.99e+03	7.03e+01	5.64e+01		mean	7.88e+01	1.24e+03	7.07e+01	4.68e+01
	std	6.20e+00	5.01e+03	2.38e+00	4.01e+01		std	4.80e+00	3.37e+03	2.28e+00	1.92e+01
T ₂	median	8.56e+01	1.51e+02 (≈)	6.96e+01	4.08e+01 (+)	T ₂₇	median	8.04e+01	1.42e+02 (≈)	7.09e+01	4.09e+01 (+)
	mean	8.61e+01	7.58e+02	6.98e+01	6.16e+01		mean	8.20e+01	6.30e+02	7.06e+01	5.65e+01
	std	6.49e+00	1.92e+03	2.54e+00	3.61e+01		std	5.72e+00	1.33e+03	2.66e+00	3.56e+01
T ₃	median	8.09e+01	1.52e+02 (-)	7.01e+01	4.07e+01 (+)	T ₂₈	median	7.90e+01	1.62e+02 (≈)	7.08e+01	4.11e+01 (+)
	mean	8.23e+01	1.96e+03	7.08e+01	5.95e+01		mean	7.99e+01	2.55e+03	7.02e+01	6.07e+01
	std	6.87e+00	6.24e+03	2.57e+00	7.17e+01		std	5.49e+00	5.00e+03	2.27e+00	5.05e+01
T ₄	median	7.97e+01	2.23e+02 (-)	6.96e+01	4.17e+01 (+)	T ₂₉	median	8.02e+01	6.61e+01 (≈)	7.08e+01	4.14e+01 (+)
	mean	8.21e+01	3.65e+03	6.97e+01	8.48e+01		mean	8.04e+01	1.19e+03	7.07e+01	5.70e+01
	std	7.71e+00	9.03e+03	2.34e+00	8.40e+01		std	4.65e+00	3.95e+03	2.89e+00	3.99e+01
T ₅	median	8.58e+01	1.42e+02 (-)	7.03e+01	4.11e+01 (+)	T ₃₀	median	8.28e+01	2.57e+02 (-)	7.01e+01	4.09e+01 (+)
	mean	8.54e+01	5.29e+03	7.02e+01	7.09e+01		mean	8.42e+01	6.76e+02	7.02e+01	7.48e+01
	std	5.48e+00	2.03e+04	2.15e+00	7.20e+01		std	8.13e+00	1.20e+03	1.79e+00	1.07e+02
T ₆	median	8.04e+01	1.51e+02 (≈)	6.98e+01	4.06e+01 (+)	T ₃₁	median	8.24e+01	3.15e+02 (-)	6.99e+01	4.08e+01 (+)
	mean	8.05e+01	9.79e+02	6.93e+01	4.45e+01		mean	8.16e+01	1.04e+03	6.98e+01	5.88e+01
	std	6.06e+00	1.96e+03	2.79e+00	1.97e+01		std	5.20e+00	1.60e+03	2.07e+00	6.60e+01
T ₇	median	8.17e+01	1.72e+02 (-)	6.94e+01	4.11e+01 (+)	T ₃₂	median	8.39e+01	2.96e+02 (-)	7.00e+01	4.08e+01 (+)
	mean	8.41e+01	1.30e+03	6.94e+01	5.75e+01		mean	8.44e+01	1.04e+03	6.99e+01	4.28e+01
	std	8.17e+00	3.56e+03	2.40e+00	5.02e+01		std	5.04e+00	1.76e+03	2.06e+00	1.09e+01
T ₈	median	7.95e+01	9.07e+01 (≈)	6.96e+01	4.09e+01 (+)	T ₃₃	median	8.05e+01	1.54e+02 (≈)	6.89e+01	4.14e+01 (+)
	mean	8.02e+01	1.19e+03	6.92e+01	4.65e+01		mean	7.96e+01	4.02e+03	6.88e+01	7.44e+01
	std	5.06e+00	2.61e+03	2.47e+00	1.82e+01		std	4.53e+00	9.44e+03	1.88e+00	9.22e+01
T ₉	median	8.32e+01	1.94e+02 (≈)	6.95e+01	4.14e+01 (+)	T ₃₄	median	8.05e+01	2.34e+02 (-)	7.01e+01	4.12e+01 (+)
	mean	8.41e+01	9.13e+02	6.97e+01	5.18e+01		mean	8.00e+01	8.72e+03	6.99e+01	5.31e+01
	std	6.72e+00	2.03e+03	2.84e+00	2.84e+01		std	4.82e+00	3.15e+04	2.63e+00	3.10e+01
T ₁₀	median	8.04e+01	1.02e+02 (≈)	6.97e+01	4.14e+01 (+)	T ₃₅	median	7.91e+01	4.13e+02 (-)	6.95e+01	4.06e+01 (+)
	mean	8.06e+01	3.74e+03	6.95e+01	6.88e+01		mean	7.96e+01	4.32e+03	6.92e+01	7.70e+01
	std	4.69e+00	1.75e+04	1.84e+00	6.21e+01		std	4.20e+00	8.79e+03	1.86e+00	7.67e+01
T ₁₁	median	8.12e+01	1.01e+02 (≈)	7.09e+01	4.08e+01 (+)	T ₃₆	median	7.93e+01	2.74e+02 (-)	7.18e+01	4.04e+01 (+)
	mean	8.13e+01	2.29e+03	7.02e+01	4.73e+01		mean	8.13e+01	2.14e+03	7.12e+01	5.80e+01
	std	4.81e+00	5.91e+03	2.19e+00	1.92e+01		std	5.67e+00	7.32e+03	2.77e+00	4.45e+01
T ₁₂	median	7.87e+01	2.02e+02 (-)	6.97e+01	4.05e+01 (+)	T ₃₇	median	8.16e+01	1.10e+02 (≈)	7.04e+01	4.05e+01 (+)
	mean	7.92e+01	2.60e+03	6.97e+01	6.95e+01		mean	8.28e+01	6.75e+03	7.03e+01	4.84e+01
	std	5.49e+00	9.70e+03	2.99e+00	1.24e+02		std	6.66e+00	1.59e+04	2.44e+00	2.93e+01
T ₁₃	median	8.04e+01	1.25e+02 (≈)	6.89e+01	4.05e+01 (+)	T ₃₈	median	8.32e+01	1.71e+02 (-)	6.98e+01	4.06e+01 (+)
	mean	8.11e+01	6.73e+02	6.91e+01	5.28e+01		mean	8.31e+01	2.46e+03	6.91e+01	5.62e+01
	std	5.18e+00	2.08e+03	2.92e+00	3.28e+01		std	4.93e+00	6.24e+03	2.72e+00	4.30e+01
T ₁₄	median	8.06e+01	1.50e+02 (≈)	7.01e+01	4.06e+01 (+)	T ₃₉	median	8.44e+01	1.35e+02 (≈)	7.04e+01	4.09e+01 (+)
	mean	8.07e+01	3.99e+03	7.03e+01	6.01e+01		mean	8.46e+01	8.22e+02	7.04e+01	4.99e+01
	std	5.16e+00	1.36e+04	2.21e+00	4.39e+01		std	7.14e+00	1.51e+03	2.68e+00	2.86e+01
T ₁₅	median	8.43e+01	2.48e+02 (≈)	7.10e+01	4.06e+01 (+)	T ₄₀	median	8.23e+01	3.25e+02 (-)	7.05e+01	4.11e+01 (+)
	mean	8.50e+01	2.00e+03	7.07e+01	5.88e+01		mean	8.32e+01	4.09e+03	7.05e+01	5.48e+01
	std	9.17e+00	5.82e+03	2.62e+00	5.28e+01		std	6.71e+00	1.00e+04	1.97e+00	4.18e+01
T ₁₆	median	8.04e+01	2.06e+02 (-)	7.02e+01	4.10e+01 (+)	T ₄₁	median	8.56e+01	1.48e+02 (-)	7.03e+01	4.31e+01 (+)
	mean	8.14e+01	2.19e+03	7.05e+01	4.98e+01		mean	8.57e+01	1.94e+03	6.98e+01	7.07e+01
	std	4.64e+00	5.81e+03	2.24e+00	3.83e+01		std	8.05e+00	6.10e+03	2.61e+00	5.32e+01
T ₁₇	median	8.09e+01	1.64e+02 (-)	7.04e+01	4.09e+01 (+)	T ₄₂	median	8.07e+01	1.73e+02 (-)	7.02e+01	4.03e+01 (+)
	mean	8.13e+01	3.72e+03	7.04e+01	7.00e+01		mean	8.13e+01	2.53e+03	7.06e+01	7.42e+01
	std	4.09e+00	6.47e+03	2.03e+00	8.86e+01		std	5.35e+00	6.19e+03	2.73e+00	1.20e+02
T ₁₈	median	8.27e+01	1.42e+02 (-)	6.91e+01	4.14e+01 (+)	T ₄₃	median	8.12e+01	6.94e+02 (-)	7.00e+01	4.07e+01 (+)
	mean	8.32e+01	9.98e+02	6.92e+01	7.12e+01		mean	8.10e+01	5.01e+03	7.05e+01	7.10e+01
	std	4.81e+00	2.31e+03	2.93e+00	5.69e+01		std	5.08e+00	1.12e+04	1.71e+00	6.00e+01
T ₁₉	median	7.95e+01	3.08e+02 (-)	7.01e+01	4.09e+01 (+)	T ₄₄	median	8.12e+01	1.80e+02 (≈)	6.96e+01	4.07e+01 (+)
	mean	7.99e+01	4.16e+03	7.00e+01	6.16e+01		mean	8.16e+01	9.19e+02	6.95e+01	5.94e+01
	std	4.95e+00	1.20e+04	1.88e+00	4.83e+01		std	5.11e+00	2.12e+03	2.93e+00	4.70e+01
T ₂₀	median	8.03e+01	6.63e+01 (≈)	6.91e+01	4.04e+01 (+)	T ₄₅	median	8.10e+01	1.55e+02 (-)	6.99e+01	4.12e+01 (+)
	mean	8.04e+01	2.47e+03	6.92e+01	6.79e+01		mean	8.13e+01	3.51e+03	6.93e+01	6.84e+01
	std	3.89e+00	6.23e+03	1.89e+00	6.72e+01		std	5.09e+00	9.54e+03	2.02e+00	7.75e+01
T ₂₁	median	8.24e+01	1.39e+02 (-)	7.04e+01	4.13e+01 (+)	T ₄₆	median	8.18e+01	2.36e+02 (-)	6.94e+01	4.09e+01 (+)
	mean	8.26e+01	1.09e+03	7.01e+01	5.58e+01		mean	8.26e+01	5.40e+03	6.93e+01	7.62e+01
	std	6.46e+00	2.94e+03	2.26e+00	3.08e+01		std	6.11e+00	2.50e+04	2.54e+00	1.10e+02
T ₂₂	median	8.14e+01	1.65e+02 (-)	7.01e+01	4.13e+01 (+)	T ₄₇	median	8.54e+01	2.05e+02 (-)	7.12e+01	4.00e+01 (+)
	mean	8.20e+01	2.89e+03	7.01e+01	5.74e+01		mean	8.68e+01	8.52e+02	7.03e+01	5.30e+01
	std	4.51e+00	1.17e+04	2.27e+00	4.70e+01		std	9.67e+00	1.78e+03	2.54e+00	4.02e+01
T ₂₃	median	8.06e+01	5.05e+02 (-)	7.02e+01	4.02e+01 (+)	T ₄₈	median	8.24e+01	2.40e+02 (-)	7.03e+01	4.07e+01 (+)
	mean	8.04e+01	3.49e+03	7.02e+01	6.93e+01		mean	8.24e+01	1.67e+03	7.02e+01	4.78e+01
	std	4.61e+00	1.03e+04	2.21e+00	5.61e+01		std	4.75e+00	4.16e+03	2.35e+00	2.16e+01
T ₂₄	median	8.14e+01	1.95e+02 (-)	7.04e+01	4.09e+01 (+)	T ₄₉	median	8.08e+01	1.79e+02 (-)	6.94e+01	4.09e+01 (+)
	mean	8.12e+01	6.30e+03	7.03e+01	5.12e+01		mean	8.10e+01	6.50e+02	6.96e+01	5.85e+01
	std	5.52e+00	1.97e+04	3.07e+00	2.42e+01		std	4.94e+00	1.18e+03	2.56e+00	4.15e+01
T ₂₅	median	7.97e+01	9.17e+01 (≈)	6.99e+01	4.08e+01 (+)	T ₅₀	median	8.01e+01	3.85e+02 (-)	7.01e+01	4.16e+01 (+)
	mean	8.06e+01	1.76e+03	6.96e+01	6.21e+01		mean	8.20e+01	1.15e+03	7.04e+01	8.21e+01
	std	4.98e+00	6.12e+03	2.85e+00	9.69e+01		std	6.87e+00	1.86e+03	2.04e+00	7.94e+01

Table S1.3. The median, mean, and standard deviation of the best fitness values obtained by EDA, MaT-EDA, AMaLGA, and MaT-AMaLGA over 30 independent runs on **S3** in WCCI2020 single-objective many-tasking benchmark suite. “+”, “-”, and “≈” indicate that the corresponding result of MaT-EDA (or MaT-AMaLGA) is better than, similar to, and worse than that of EDA (or AMaLGA), respectively

Task	Stats.	EDA	MaT-EDA	AMaLGA	MaT-AMaLGA	Task	Stats.	EDA	MaT-EDA	AMaLGA	MaT-AMaLGA
T ₁	median	3.33e+02	4.33e+01 (+)	3.27e+02	4.23e+01 (+)	T ₂₆	median	3.32e+02	3.98e+01 (+)	3.31e+02	4.78e+01 (+)
	mean	3.33e+02	4.25e+01	3.26e+02	4.55e+01		mean	3.29e+02	4.08e+01	3.29e+02	4.69e+01
	std	1.40e+01	9.14e+00	1.85e+01	1.04e+01		std	1.65e+01	9.06e+00	1.20e+01	8.45e+00
T ₂	median	3.34e+02	4.08e+01 (+)	3.30e+02	4.38e+01 (+)	T ₂₇	median	3.32e+02	3.58e+01 (+)	3.31e+02	4.97e+01 (+)
	mean	3.29e+02	4.18e+01	3.29e+02	4.42e+01		mean	3.30e+02	3.69e+01	3.29e+02	4.87e+01
	std	1.67e+01	8.69e+00	1.30e+01	7.98e+00		std	1.24e+01	7.25e+00	1.26e+01	1.16e+01
T ₃	median	3.30e+02	3.73e+01 (+)	3.36e+02	4.28e+01 (+)	T ₂₈	median	3.33e+02	4.18e+01 (+)	3.30e+02	4.53e+01 (+)
	mean	3.30e+02	3.88e+01	3.33e+02	4.37e+01		mean	3.30e+02	4.16e+01	3.30e+02	4.47e+01
	std	1.09e+01	8.24e+00	1.51e+01	7.94e+00		std	1.61e+01	7.23e+00	1.23e+01	8.88e+00
T ₄	median	3.23e+02	3.78e+01 (+)	3.29e+02	4.83e+01 (+)	T ₂₉	median	3.32e+02	3.65e+01 (+)	3.28e+02	4.43e+01 (+)
	mean	3.27e+02	3.81e+01	3.29e+02	4.73e+01		mean	3.27e+02	4.01e+01	3.27e+02	4.37e+01
	std	1.50e+01	5.96e+00	1.36e+01	8.36e+00		std	1.79e+01	1.17e+01	1.29e+01	8.27e+00
T ₅	median	3.34e+02	4.43e+01 (+)	3.26e+02	4.63e+01 (+)	T ₃₀	median	3.30e+02	4.22e+01 (+)	3.27e+02	5.02e+01 (+)
	mean	3.29e+02	4.26e+01	3.26e+02	4.78e+01		mean	3.28e+02	4.31e+01	3.27e+02	4.91e+01
	std	1.50e+01	9.36e+00	1.33e+01	7.48e+00		std	1.65e+01	8.45e+00	1.01e+01	9.55e+00
T ₆	median	3.31e+02	4.18e+01 (+)	3.29e+02	4.93e+01 (+)	T ₃₁	median	3.33e+02	4.43e+01 (+)	3.32e+02	4.53e+01 (+)
	mean	3.29e+02	4.06e+01	3.28e+02	4.93e+01		mean	3.30e+02	4.29e+01	3.33e+02	4.53e+01
	std	1.25e+01	8.44e+00	1.48e+01	1.06e+01		std	1.47e+01	1.01e+01	1.09e+01	1.07e+01
T ₇	median	3.34e+02	3.93e+01 (+)	3.31e+02	4.53e+01 (+)	T ₃₂	median	3.36e+02	3.98e+01 (+)	3.33e+02	4.48e+01 (+)
	mean	3.32e+02	4.21e+01	3.29e+02	4.59e+01		mean	3.34e+02	4.26e+01	3.33e+02	4.47e+01
	std	1.31e+01	1.05e+01	1.16e+01	9.96e+00		std	1.16e+01	1.03e+01	1.25e+01	7.99e+00
T ₈	median	3.35e+02	4.33e+01 (+)	3.31e+02	4.73e+01 (+)	T ₃₃	median	3.29e+02	3.88e+01 (+)	3.34e+02	4.43e+01 (+)
	mean	3.34e+02	4.10e+01	3.30e+02	4.70e+01		mean	3.26e+02	4.04e+01	3.31e+02	4.49e+01
	std	1.28e+01	8.27e+00	1.38e+01	9.22e+00		std	1.43e+01	9.65e+00	1.22e+01	7.83e+00
T ₉	median	3.37e+02	3.98e+01 (+)	3.30e+02	4.43e+01 (+)	T ₃₄	median	3.32e+02	3.83e+01 (+)	3.29e+02	4.83e+01 (+)
	mean	3.32e+02	3.99e+01	3.27e+02	4.47e+01		mean	3.30e+02	4.10e+01	3.32e+02	4.72e+01
	std	1.63e+01	7.72e+00	1.20e+01	9.46e+00		std	1.19e+01	1.03e+01	1.15e+01	9.97e+00
T ₁₀	median	3.35e+02	4.08e+01 (+)	3.35e+02	4.78e+01 (+)	T ₃₅	median	3.27e+02	3.83e+01 (+)	3.33e+02	4.68e+01 (+)
	mean	3.31e+02	4.24e+01	3.33e+02	4.76e+01		mean	3.27e+02	3.91e+01	3.30e+02	4.78e+01
	std	1.46e+01	8.21e+00	1.48e+01	9.52e+00		std	1.37e+01	7.37e+00	1.22e+01	1.04e+01
T ₁₁	median	3.30e+02	3.63e+01 (+)	3.33e+02	4.13e+01 (+)	T ₃₆	median	3.31e+02	3.83e+01 (+)	3.35e+02	4.58e+01 (+)
	mean	3.29e+02	3.92e+01	3.30e+02	4.38e+01		mean	3.30e+02	4.00e+01	3.32e+02	4.59e+01
	std	1.65e+01	1.24e+01	1.34e+01	9.58e+00		std	1.45e+01	9.54e+00	1.41e+01	9.95e+00
T ₁₂	median	3.28e+02	4.28e+01 (+)	3.32e+02	4.73e+01 (+)	T ₃₇	median	3.26e+02	3.73e+01 (+)	3.33e+02	4.78e+01 (+)
	mean	3.30e+02	4.23e+01	3.29e+02	4.68e+01		mean	3.26e+02	3.91e+01	3.32e+02	4.66e+01
	std	1.12e+01	9.71e+00	1.56e+01	1.03e+01		std	1.07e+01	8.12e+00	1.29e+01	9.02e+00
T ₁₃	median	3.29e+02	3.75e+01 (+)	3.30e+02	4.18e+01 (+)	T ₃₈	median	3.30e+02	3.98e+01 (+)	3.30e+02	4.78e+01 (+)
	mean	3.29e+02	3.84e+01	3.28e+02	4.42e+01		mean	3.28e+02	4.06e+01	3.29e+02	4.65e+01
	std	1.02e+01	8.38e+00	1.22e+01	9.42e+00		std	1.44e+01	7.68e+00	1.46e+01	1.10e+01
T ₁₄	median	3.34e+02	4.08e+01 (+)	3.35e+02	4.58e+01 (+)	T ₃₉	median	3.29e+02	4.03e+01 (+)	3.28e+02	4.53e+01 (+)
	mean	3.32e+02	3.97e+01	3.32e+02	4.64e+01		mean	3.28e+02	3.98e+01	3.29e+02	4.45e+01
	std	1.12e+01	8.99e+00	1.65e+01	9.11e+00		std	1.42e+01	1.00e+01	1.33e+01	8.82e+00
T ₁₅	median	3.31e+02	3.98e+01 (+)	3.39e+02	4.93e+01 (+)	T ₄₀	median	3.33e+02	3.88e+01 (+)	3.34e+02	5.02e+01 (+)
	mean	3.30e+02	4.18e+01	3.36e+02	4.86e+01		mean	3.31e+02	3.92e+01	3.33e+02	4.96e+01
	std	1.21e+01	9.06e+00	1.19e+01	1.04e+01		std	1.66e+01	9.45e+00	1.10e+01	9.05e+00
T ₁₆	median	3.30e+02	4.48e+01 (+)	3.30e+02	4.93e+01 (+)	T ₄₁	median	3.31e+02	3.78e+01 (+)	3.38e+02	4.97e+01 (+)
	mean	3.26e+02	4.27e+01	3.29e+02	4.87e+01		mean	3.27e+02	3.99e+01	3.35e+02	4.77e+01
	std	1.44e+01	8.40e+00	1.61e+01	9.31e+00		std	1.65e+01	9.00e+00	1.37e+01	9.18e+00
T ₁₇	median	3.32e+02	3.73e+01 (+)	3.34e+02	4.58e+01 (+)	T ₄₂	median	3.28e+02	3.98e+01 (+)	3.25e+02	4.68e+01 (+)
	mean	3.27e+02	3.91e+01	3.34e+02	4.68e+01		mean	3.24e+02	4.12e+01	3.23e+02	4.65e+01
	std	1.45e+01	9.27e+00	1.32e+01	8.73e+00		std	1.83e+01	9.43e+00	1.12e+01	1.05e+01
T ₁₈	median	3.29e+02	3.58e+01 (+)	3.35e+02	4.63e+01 (+)	T ₄₃	median	3.32e+02	4.03e+01 (+)	3.34e+02	4.58e+01 (+)
	mean	3.28e+02	3.83e+01	3.32e+02	4.64e+01		mean	3.31e+02	4.15e+01	3.30e+02	4.53e+01
	std	1.75e+01	9.10e+00	1.46e+01	8.90e+00		std	1.13e+01	1.18e+01	1.62e+01	8.59e+00
T ₁₉	median	3.35e+02	3.98e+01 (+)	3.29e+02	3.98e+01 (+)	T ₄₄	median	3.31e+02	3.58e+01 (+)	3.32e+02	4.58e+01 (+)
	mean	3.31e+02	3.95e+01	3.26e+02	4.20e+01		mean	3.30e+02	3.77e+01	3.28e+02	4.51e+01
	std	1.73e+01	7.69e+00	1.63e+01	8.62e+00		std	1.52e+01	1.26e+01	1.33e+01	9.82e+00
T ₂₀	median	3.32e+02	3.83e+01 (+)	3.26e+02	4.48e+01 (+)	T ₄₅	median	3.28e+02	4.28e+01 (+)	3.26e+02	4.93e+01 (+)
	mean	3.28e+02	3.81e+01	3.27e+02	4.53e+01		mean	3.29e+02	4.37e+01	3.26e+02	4.73e+01
	std	1.36e+01	8.70e+00	1.12e+01	7.06e+00		std	1.32e+01	9.24e+00	1.06e+01	1.05e+01
T ₂₁	median	3.32e+02	4.28e+01 (+)	3.32e+02	4.43e+01 (+)	T ₄₆	median	3.32e+02	4.38e+01 (+)	3.33e+02	4.38e+01 (+)
	mean	3.31e+02	4.34e+01	3.32e+02	4.63e+01		mean	3.29e+02	4.39e+01	3.28e+02	4.41e+01
	std	1.17e+01	7.33e+00	1.34e+01	9.87e+00		std	1.36e+01	1.13e+01	1.89e+01	7.81e+00
T ₂₂	median	3.33e+02	3.98e+01 (+)	3.33e+02	5.02e+01 (+)	T ₄₇	median	3.31e+02	4.18e+01 (+)	3.26e+02	4.33e+01 (+)
	mean	3.31e+02	3.93e+01	3.31e+02	4.95e+01		mean	3.27e+02	4.13e+01	3.24e+02	4.47e+01
	std	1.53e+01	8.48e+00	1.26e+01	9.79e+00		std	1.51e+01	9.65e+00	1.62e+01	1.05e+01
T ₂₃	median	3.29e+02	3.96e+01 (+)	3.26e+02	4.48e+01 (+)	T ₄₈	median	3.32e+02	4.13e+01 (+)	3.34e+02	4.97e+01 (+)
	mean	3.24e+02	3.98e+01	3.26e+02	4.57e+01		mean	3.31e+02	4.19e+01	3.32e+02	4.93e+01
	std	1.42e+01	8.71e+00	1.18e+01	7.13e+00		std	1.46e+01	1.15e+01	1.18e+01	1.01e+01
T ₂₄	median	3.32e+02	3.78e+01 (+)	3.33e+02	4.33e+01 (+)	T ₄₉	median	3.26e+02	3.92e+01 (+)	3.30e+02	4.43e+01 (+)
	mean	3.30e+02	4.15e+01	3.30e+02	4.37e+01		mean	3.27e+02	4.04e+01	3.28e+02	4.47e+01
	std	1.12e+01	1.16e+01	1.40e+01	8.30e+00		std	1.31e+01	7.53e+00	1.59e+01	8.87e+00
T ₂₅	median	3.30e+02	3.68e+01 (+)	3.31e+02	4.23e+01 (+)	T ₅₀	median	3.31e+02	3.99e+01 (+)	3.26e+02	4.63e+01 (+)
	mean	3.30e+02	4.11e+01	3.25e+02	4.52e+01		mean	3.30e+02	3.99e+01	3.28e+02	4.70e+01
	std	1.01e+01	1.19e+01	1.58e+01	1.14e+01		std	1.34e+01	6.80e+00	1.28e+01	8.24e+00

Table S1.4. The median, mean, and standard deviation of the best fitness values obtained by EDA, MaT-EDA, AMaLGA, and MaT-AMaLGA over 30 independent runs on **S4** in WCCI2020 single-objective many-tasking benchmark suite. “+”, “-”, and “≈” indicate that the corresponding result of MaT-EDA (or MaT-AMaLGA) is better than, similar to, and worse than that of EDA (or AMaLGA), respectively

Task	Stats.	EDA	MaT-EDA	AMaLGA	MaT-AMaLGA	Task	Stats.	EDA	MaT-EDA	AMaLGA	MaT-AMaLGA
T ₁	median	3.38e-01	1.24e-23 (+)	2.80e-01	1.03e-04 (+)	T ₂₆	median	1.06e+02	2.34e+02 (≈)	7.04e+01	3.73e+01 (+)
	mean	3.98e-01	2.41e-23	2.76e-01	1.04e-04		mean	1.16e+02	1.11e+04	7.02e+01	6.00e+01
	std	3.35e-01	4.62e-23	2.28e-02	2.70e-05		std	2.79e+01	2.41e+04	2.21e+00	5.15e+01
T ₂	median	1.43e+02	1.01e+03 (≈)	6.90e+01	3.62e+01 (+)	T ₂₇	median	9.52e-01	9.92e-13 (+)	3.48e-01	2.90e-03 (+)
	mean	2.46e+02	5.95e+03	6.87e+01	4.37e+01		mean	1.10e+00	1.16e-12	3.54e-01	2.91e-03
	std	2.97e+02	1.01e+04	2.51e+00	2.73e+01		std	6.73e-01	6.91e-13	2.45e-02	3.91e-04
T ₃	median	6.68e-01	1.00e-12 (+)	3.61e-01	2.98e-03 (+)	T ₂₈	median	5.19e-01	1.26e-23 (+)	2.72e-01	1.01e-04 (+)
	mean	9.15e-01	1.18e-12	3.59e-01	2.90e-03		mean	8.51e-01	2.43e-23	2.74e-01	1.03e-04
	std	5.99e-01	7.39e-13	2.53e-02	3.38e-04		std	9.05e-01	4.53e-23	2.17e-02	2.65e-05
T ₄	median	3.99e-01	1.23e-23 (+)	2.74e-01	1.01e-04 (+)	T ₂₉	median	1.02e+02	4.31e+02 (-)	7.07e+01	4.11e+01 (+)
	mean	5.43e-01	2.40e-23	2.75e-01	1.01e-04		mean	1.18e+02	2.17e+03	7.11e+01	6.82e+01
	std	4.39e-01	4.49e-23	2.89e-02	2.68e-05		std	5.38e+01	5.57e+03	2.94e+00	5.29e+01
T ₅	median	1.58e+02	5.96e+02 (-)	6.97e+01	3.69e+01 (+)	T ₃₀	median	8.56e-01	1.00e-12 (+)	3.56e-01	2.81e-03 (+)
	mean	1.72e+02	5.77e+03	6.99e+01	5.34e+01		mean	1.04e+00	1.19e-12	3.56e-01	2.80e-03
	std	6.09e+01	1.64e+04	2.66e+00	6.04e+01		std	5.95e-01	7.31e-13	2.37e-02	3.46e-04
T ₆	median	1.05e+00	1.01e-12 (+)	3.62e-01	3.02e-03 (+)	T ₃₁	median	3.54e-01	1.21e-23 (+)	2.73e-01	9.31e-05 (+)
	mean	1.21e+00	1.19e-12	3.59e-01	3.00e-03		mean	4.52e-01	2.38e-23	2.77e-01	9.82e-05
	std	6.01e-01	7.42e-13	2.66e-02	4.53e-04		std	3.41e-01	4.56e-23	2.70e-02	3.25e-05
T ₇	median	3.38e-01	1.23e-23 (+)	2.79e-01	8.44e-05 (+)	T ₃₂	median	1.22e+02	4.29e+02 (-)	7.14e+01	3.82e+01 (+)
	mean	3.61e-01	2.49e-23	2.80e-01	9.14e-05		mean	1.37e+02	8.95e+02	7.08e+01	6.96e+01
	std	6.61e-02	4.76e-23	2.99e-02	2.76e-05		std	8.51e+01	1.13e+03	2.47e+00	6.02e+01
T ₈	median	2.52e+02	3.10e+02 (≈)	7.04e+01	3.77e+01 (+)	T ₃₃	median	5.13e-01	9.89e-13 (+)	3.50e-01	2.69e-03 (+)
	mean	7.27e+02	1.24e+03	7.01e+01	4.51e+01		mean	6.78e-01	1.18e-12	3.48e-01	2.79e-03
	std	1.73e+03	3.06e+03	2.25e+00	2.20e+01		std	4.50e-01	7.31e-13	2.33e-02	3.99e-04
T ₉	median	5.47e-01	9.87e-13 (+)	3.49e-01	2.91e-03 (+)	T ₃₄	median	4.05e-01	1.23e-23 (+)	2.80e-01	9.72e-05 (+)
	mean	7.30e-01	1.17e-12	3.46e-01	2.85e-03		mean	6.70e-01	2.29e-23	2.80e-01	9.92e-05
	std	4.26e-01	7.17e-13	2.43e-02	4.81e-04		std	7.34e-01	4.08e-23	2.18e-02	2.66e-05
T ₁₀	median	4.28e-01	1.25e-23 (+)	2.83e-01	1.02e-04 (+)	T ₃₅	median	1.34e+02	4.39e+02 (-)	7.14e+01	3.85e+01 (≈)
	mean	7.81e-01	2.39e-23	2.73e-01	1.03e-04		mean	2.03e+02	1.32e+03	7.10e+01	4.01e+02
	std	1.09e+00	4.41e-23	2.83e-02	2.97e-05		std	1.67e+02	1.76e+03	2.15e+00	2.14e+02
T ₁₁	median	2.84e+02	1.46e+02 (≈)	6.91e+01	3.74e+01 (+)	T ₃₆	median	4.69e-01	9.92e-13 (+)	3.56e-01	2.86e-03 (+)
	mean	5.46e+02	1.77e+03	6.94e+01	5.15e+01		mean	5.50e-01	1.18e-12	3.48e-01	2.87e-03
	std	7.38e+02	4.52e+03	2.54e+00	2.96e+01		std	3.06e-01	7.42e-13	3.00e-02	4.25e-04
T ₁₂	median	4.83e-01	9.96e-13 (+)	3.49e-01	2.81e-03 (+)	T ₃₇	median	3.95e-01	1.24e-23 (+)	2.74e-01	1.00e-04 (+)
	mean	5.22e-01	1.18e-12	3.47e-01	2.83e-03		mean	8.87e-01	2.30e-23	2.73e-01	1.02e-04
	std	1.80e-01	7.23e-13	2.91e-02	4.48e-04		std	1.45e+00	4.03e-23	2.59e-02	7.75e-05
T ₁₃	median	3.84e-01	1.22e-23 (+)	2.87e-01	1.05e-04 (+)	T ₃₈	median	2.07e+02	2.32e+02 (≈)	7.23e+01	3.78e+01 (+)
	mean	5.02e-01	2.46e-23	2.80e-01	1.09e-04		mean	3.93e+02	8.01e+02	7.21e+01	9.43e+01
	std	3.00e-01	4.83e-23	2.34e-02	2.92e-05		std	4.98e+02	1.26e+03	3.25e+00	1.12e+02
T ₁₄	median	1.70e+02	2.69e+02 (≈)	7.12e+01	3.69e+01 (+)	T ₃₉	median	5.33e-01	9.85e-13 (+)	3.47e-01	2.95e-03 (+)
	mean	2.53e+02	3.09e+03	7.09e+01	5.79e+01		mean	7.27e-01	1.17e-12	3.50e-01	2.92e-03
	std	2.21e+02	8.95e+03	2.88e+00	4.96e+01		std	4.81e-01	7.45e-13	2.55e-02	4.17e-04
T ₁₅	median	6.01e-01	9.87e-13 (+)	3.56e-01	2.87e-03 (+)	T ₄₀	median	4.13e-01	1.22e-23 (+)	2.73e-01	1.02e-04 (+)
	mean	7.47e-01	1.17e-12	3.59e-01	2.95e-03		mean	5.66e-01	2.31e-23	2.71e-01	1.07e-04
	std	3.93e-01	7.19e-13	1.79e-02	3.65e-04		std	4.29e-01	4.28e-23	3.12e-02	3.30e-05
T ₁₆	median	3.78e-01	1.24e-23 (+)	2.76e-01	9.72e-05 (+)	T ₄₁	median	2.01e+02	2.57e+02 (≈)	7.00e+01	3.74e+01 (+)
	mean	9.51e-01	2.41e-23	2.77e-01	9.88e-05		mean	6.07e+02	3.79e+03	7.01e+01	9.08e+01
	std	1.69e+00	4.51e-23	2.40e-02	2.55e-05		std	1.66e+03	8.90e+03	2.36e+00	2.63e+02
T ₁₇	median	1.07e+02	2.22e+02 (-)	7.09e+01	3.78e+01 (+)	T ₄₂	median	4.92e-01	9.90e-13 (+)	3.47e-01	2.86e-03 (+)
	mean	1.62e+02	1.37e+03	7.08e+01	1.19e+02		mean	5.80e-01	1.16e-12	3.46e-01	2.88e-03
	std	2.28e+02	2.40e+03	2.18e+00	2.20e+02		std	2.82e-01	6.79e-13	2.97e-02	3.61e-04
T ₁₈	median	6.49e-01	9.90e-13 (+)	3.61e-01	2.81e-03 (+)	T ₄₃	median	2.06e+00	1.23e-23 (+)	2.84e-01	1.05e-04 (+)
	mean	7.73e-01	1.18e-12	3.55e-01	2.83e-03		mean	4.27e+00	2.35e-23	2.72e-01	1.02e-04
	std	3.66e-01	7.56e-13	2.71e-02	3.89e-04		std	5.87e+00	4.34e-23	3.40e-02	2.91e-05
T ₁₉	median	3.82e-01	1.21e-23 (+)	2.88e-01	9.60e-05 (+)	T ₄₄	median	1.19e+02	3.07e+02 (-)	6.96e+01	3.68e+01 (+)
	mean	9.36e-01	2.34e-23	2.83e-01	1.06e-04		mean	1.37e+02	2.68e+03	7.01e+01	5.18e+01
	std	2.25e+00	4.38e-23	1.97e-02	3.43e-05		std	5.00e+01	1.01e+04	2.68e+00	4.04e+01
T ₂₀	median	1.69e+02	1.81e+02 (≈)	6.97e+01	3.64e+01 (+)	T ₄₅	median	1.12e+00	9.99e-13 (+)	3.57e-01	2.86e-03 (+)
	mean	2.63e+02	4.74e+03	6.90e+01	4.55e+01		mean	1.26e+00	7.10e-03	3.61e-01	2.82e-03
	std	2.04e+02	1.38e+04	2.86e+00	2.49e+01		std	6.85e-01	2.84e-02	3.19e-02	4.37e-04
T ₂₁	median	1.57e+00	9.90e-13 (+)	3.64e-01	2.81e-03 (+)	T ₄₆	median	3.23e-01	1.22e-23 (+)	2.84e-01	1.05e-04 (+)
	mean	1.53e+00	1.17e-12	3.60e-01	2.83e-03		mean	3.36e-01	2.48e-23	2.78e-01	1.05e-04
	std	6.92e-01	7.25e-13	2.54e-02	3.54e-04		std	4.97e-02	4.79e-23	2.88e-02	2.93e-05
T ₂₂	median	3.30e-01	1.24e-23 (+)	2.70e-01	1.03e-04 (+)	T ₄₇	median	1.56e+02	6.30e+02 (-)	7.00e+01	3.59e+01 (+)
	mean	3.40e-01	2.42e-23	2.69e-01	1.07e-04		mean	1.97e+02	1.02e+04	6.99e+01	4.55e+01
	std	4.90e-02	4.55e-23	3.33e-02	2.74e-05		std	1.43e+02	2.84e+04	2.62e+00	3.25e+01
T ₂₃	median	1.94e+02	2.64e+02 (≈)	7.07e+01	4.48e+01 (≈)	T ₄₈	median	4.99e-01	9.87e-13 (+)	3.59e-01	2.73e-03 (+)
	mean	2.53e+02	4.58e+02	7.06e+01	8.47e+01		mean	6.33e-01	9.32e-04	3.57e-01	2.75e-03
	std	1.73e+02	6.21e+02	2.58e+00	7.29e+01		std	4.12e-01	5.10e-03	2.28e-02	5.29e-04
T ₂₄	median	7.02e-01	9.73e-13 (+)	3.56e-01	2.88e-03 (+)	T ₄₉	median	3.18e-01	1.20e-23 (+)	2.83e-01	9.56e-05 (+)
	mean	9.06e-01	1.17e-12	3.55e-01	2.85e-03		mean	3.33e-01	2.38e-23	2.73e-01	9.72e-05
	std	5.45e-01	7.75e-13	2.54e-02	3.05e-04		std	8.08e-02	4.53e-23	3.27e-02	2.53e-05
T ₂₅	median	4.11e-01	1.23e-23 (+)	2.81e-01	9.06e-05 (+)	T ₅₀	median	1.07e+02	4.97e+02 (-)	7.10e+01	9.46e+01 (≈)
	mean	7.05e-01	2.21e-23	2.77e-01	9.85e-05		mean	1.33e+02	1.55e+03	7.09e+01	1.31e+02
	std	1.07e+00	3.83e-23	2.76e-02	3.14e-05		std	5.39e+01	2.57e+03	3.31e+00	1.44e+02

Table S1.5. The median, mean, and standard deviation of the best fitness values obtained by EDA, MaT-EDA, AMaLGA, and MaT-AMaLGA over 30 independent runs on **S5** in WCCI2020 single-objective many-tasking benchmark suite. “+”, “-”, and “≈” indicate that the corresponding result of MaT-EDA (or MaT-AMaLGA) is better than, similar to, and worse than that of EDA (or AMaLGA), respectively

Task	Stats.	EDA	MaT-EDA	AMaLGA	MaT-AMaLGA	Task	Stats.	EDA	MaT-EDA	AMaLGA	MaT-AMaLGA
T ₁	median	3.36e+02	4.58e+01 (+)	3.30e+02	4.38e+01 (+)	T ₂₆	median	2.74e-02	6.49e-04 (+)	9.27e-03	0.00e+00 (+)
	mean	3.36e+02	4.45e+01	3.26e+02	4.55e+01		mean	7.40e-02	1.22e-03	9.14e-03	3.70e-17
	std	1.15e+01	8.06e+00	1.46e+01	1.05e+01		std	1.05e-01	1.08e-03	9.65e-04	6.73e-17
T ₂	median	1.68e-02	7.53e-04 (+)	9.45e-03	0.00e+00 (+)	T ₂₇	median	4.99e+00	3.05e+00 (+)	3.17e+00	2.12e+00 (+)
	mean	1.86e-02	1.27e-03	9.48e-03	1.85e-17		mean	5.20e+00	3.32e+00	3.18e+00	2.57e+00
	std	7.27e-03	1.65e-03	1.05e-03	5.12e-17		std	9.41e-01	2.04e+00	9.60e-02	1.77e+00
T ₃	median	4.28e+00	2.69e+00 (+)	3.16e+00	1.88e+00 (+)	T ₂₈	median	3.34e+02	4.23e+01 (+)	3.36e+02	4.97e+01 (+)
	mean	4.38e+00	2.72e+00	3.16e+00	2.07e+00		mean	3.31e+02	4.16e+01	3.32e+02	5.00e+01
	std	6.37e-01	1.47e+00	1.00e-01	1.25e+00		std	1.21e+01	5.30e+00	1.89e+01	1.06e+01
T ₄	median	3.33e+02	4.73e+01 (+)	3.33e+02	4.97e+01 (+)	T ₂₉	median	1.33e-02	9.54e-04 (+)	9.02e-03	0.00e+00 (+)
	mean	3.32e+02	4.75e+01	3.30e+02	4.85e+01		mean	1.73e-02	1.63e-03	9.11e-03	3.33e-17
	std	1.23e+01	7.38e+00	1.30e+01	7.19e+00		std	9.97e-03	1.67e-03	7.50e-04	5.94e-17
T ₅	median	1.15e-02	5.41e-04 (+)	9.22e-03	0.00e+00 (+)	T ₃₀	median	5.06e+00	3.39e+00 (+)	3.13e+00	2.04e+00 (+)
	mean	1.22e-02	6.45e-04	9.06e-03	3.70e-17		mean	5.35e+00	3.20e+00	3.14e+00	2.00e+00
	std	2.78e-03	3.60e-04	1.12e-03	6.07e-17		std	1.21e+00	8.48e-01	1.41e-01	1.34e+00
T ₆	median	4.01e+00	2.45e+00 (+)	3.13e+00	2.00e+00 (+)	T ₃₁	median	3.39e+02	3.98e+01 (+)	3.31e+02	4.38e+01 (+)
	mean	4.16e+00	2.57e+00	3.15e+00	2.13e+00		mean	3.34e+02	3.96e+01	3.31e+02	4.56e+01
	std	7.67e-01	1.38e+00	8.96e-02	1.10e+00		std	1.39e+01	7.76e+00	1.35e+01	1.26e+01
T ₇	median	3.35e+02	4.28e+01 (+)	3.33e+02	4.43e+01 (+)	T ₃₂	median	1.09e-02	5.44e-04 (+)	9.30e-03	0.00e+00 (+)
	mean	3.34e+02	4.34e+01	3.31e+02	4.58e+01		mean	1.13e-02	5.89e-04	9.18e-03	3.70e-17
	std	1.45e+01	9.23e+00	1.52e+01	1.11e+01		std	2.09e-03	4.09e-04	8.70e-04	6.07e-17
T ₈	median	1.38e-02	8.56e-04 (+)	8.83e-03	0.00e+00 (+)	T ₃₃	median	4.51e+00	3.01e+00 (+)	3.19e+00	1.64e+00 (+)
	mean	1.62e-02	8.99e-04	8.87e-03	4.81e-17		mean	4.51e+00	2.88e+00	3.18e+00	1.82e+00
	std	6.86e-03	6.20e-04	1.00e-03	6.95e-17		std	8.18e-01	1.49e+00	1.30e-01	1.39e+00
T ₉	median	4.44e+00	2.33e+00 (+)	3.16e+00	2.78e+00 (≈)	T ₃₄	median	3.26e+02	4.23e+01 (+)	3.31e+02	4.78e+01 (+)
	mean	4.79e+00	3.06e+00	3.13e+00	2.50e+00		mean	3.28e+02	4.32e+01	3.32e+02	4.70e+01
	std	1.21e+00	1.76e+00	1.32e-01	1.63e+00		std	1.58e+01	6.60e+00	1.50e+01	8.14e+00
T ₁₀	median	3.34e+02	4.03e+01 (+)	3.28e+02	4.73e+01 (+)	T ₃₅	median	4.20e-02	8.13e-04 (+)	9.13e-03	0.00e+00 (+)
	mean	3.33e+02	4.07e+01	3.28e+02	4.65e+01		mean	8.66e-02	9.96e-04	9.03e-03	3.70e-17
	std	9.13e+00	9.03e+00	1.19e+01	1.02e+01		std	1.31e-01	7.89e-04	1.16e-03	6.73e-17
T ₁₁	median	1.48e-02	7.56e-04 (+)	9.22e-03	0.00e+00 (+)	T ₃₆	median	3.69e+00	1.89e+00 (+)	3.17e+00	2.06e+00 (+)
	mean	2.67e-02	2.05e-03	9.14e-03	1.11e-17		mean	3.75e+00	2.20e+00	3.16e+00	2.07e+00
	std	3.25e-02	3.80e-03	9.79e-04	3.93e-17		std	4.16e-01	1.14e+00	9.76e-02	1.46e+00
T ₁₂	median	3.78e+00	2.34e+00 (+)	3.20e+00	1.94e+00 (+)	T ₃₇	median	3.28e+02	4.13e+01 (+)	3.31e+02	4.88e+01 (+)
	mean	4.04e+00	2.58e+00	3.20e+00	2.29e+00		mean	3.28e+02	3.92e+01	3.27e+02	5.04e+01
	std	5.70e-01	1.56e+00	7.94e-02	1.88e+00		std	1.60e+01	9.59e+00	1.61e+01	1.13e+01
T ₁₃	median	3.36e+02	4.13e+01 (+)	3.34e+02	4.63e+01 (+)	T ₃₈	median	1.49e-02	5.61e-04 (+)	9.38e-03	0.00e+00 (+)
	mean	3.34e+02	4.14e+01	3.30e+02	4.92e+01		mean	2.54e-02	1.54e-03	9.16e-03	2.22e-17
	std	1.06e+01	7.71e+00	1.64e+01	1.30e+01		std	2.30e-02	2.63e-03	9.37e-04	4.52e-17
T ₁₄	median	1.56e-02	1.23e-03 (+)	9.48e-03	0.00e+00 (+)	T ₃₉	median	4.73e+00	3.00e+00 (+)	3.14e+00	1.81e+00 (+)
	mean	2.38e-02	1.59e-03	9.33e-03	3.33e-17		mean	5.00e+00	2.96e+00	3.15e+00	1.89e+00
	std	2.53e-02	1.13e-03	9.63e-04	5.17e-17		std	1.32e+00	1.36e+00	1.14e-01	1.55e+00
T ₁₅	median	3.77e+00	1.98e+00 (+)	3.16e+00	1.69e+00 (+)	T ₄₀	median	3.37e+02	3.88e+01 (+)	3.36e+02	4.48e+01 (+)
	mean	3.87e+00	2.64e+00	3.17e+00	1.63e+00		mean	3.34e+02	4.04e+01	3.34e+02	4.72e+01
	std	5.06e-01	1.62e+00	1.08e-01	1.03e+00		std	1.28e+01	6.92e+00	1.46e+01	1.20e+01
T ₁₆	median	3.34e+02	4.08e+01 (+)	3.33e+02	4.88e+01 (+)	T ₄₁	median	1.54e-02	5.38e-04 (+)	9.40e-03	0.00e+00 (+)
	mean	3.32e+02	4.03e+01	3.32e+02	4.75e+01		mean	1.87e-02	1.85e-03	9.37e-03	3.33e-17
	std	1.43e+01	7.68e+00	1.17e+01	9.04e+00		std	1.10e-02	3.11e-03	7.71e-04	5.17e-17
T ₁₇	median	1.19e-02	9.04e-04 (+)	9.34e-03	0.00e+00 (+)	T ₄₂	median	4.01e+00	1.91e+00 (+)	3.20e+00	1.59e+00 (+)
	mean	1.29e-02	1.27e-03	9.35e-03	3.70e-17		mean	4.12e+00	2.06e+00	3.18e+00	2.11e+00
	std	3.04e-03	1.12e-03	9.21e-04	7.90e-17		std	7.36e-01	1.47e+00	1.27e-01	1.54e+00
T ₁₈	median	3.88e+00	2.13e+00 (+)	3.20e+00	1.09e+00 (+)	T ₄₃	median	3.31e+02	4.28e+01 (+)	3.33e+02	4.97e+01 (+)
	mean	4.08e+00	2.13e+00	3.19e+00	1.47e+00		mean	3.30e+02	4.27e+01	3.29e+02	5.00e+01
	std	7.91e-01	1.20e+00	8.15e-02	1.23e+00		std	1.34e+01	1.11e+01	1.39e+01	1.28e+01
T ₁₉	median	3.35e+02	4.13e+01 (+)	3.35e+02	4.68e+01 (+)	T ₄₄	median	9.95e-03	8.60e-04 (+)	9.34e-03	0.00e+00 (+)
	mean	3.32e+02	4.16e+01	3.31e+02	4.66e+01		mean	1.00e-02	1.18e-03	9.34e-03	2.22e-17
	std	1.51e+01	6.89e+00	1.25e+01	8.92e+00		std	1.09e-03	9.53e-04	7.79e-04	4.52e-17
T ₂₀	median	1.53e-02	7.27e-04 (+)	9.34e-03	0.00e+00 (+)	T ₄₅	median	4.45e+00	3.08e+00 (+)	3.17e+00	1.61e+00 (+)
	mean	1.77e-02	1.10e-03	9.16e-03	2.59e-17		mean	4.65e+00	2.97e+00	3.16e+00	2.07e+00
	std	7.98e-03	9.31e-04	9.81e-04	4.78e-17		std	9.52e-01	1.20e+00	1.10e-01	1.39e+00
T ₂₁	median	3.78e+00	2.00e+00 (+)	3.17e+00	1.77e+00 (+)	T ₄₆	median	3.33e+02	4.08e+01 (+)	3.33e+02	4.78e+01 (+)
	mean	3.94e+00	2.31e+00	3.18e+00	2.17e+00		mean	3.31e+02	4.23e+01	3.31e+02	4.74e+01
	std	6.58e-01	1.05e+00	9.43e-02	1.44e+00		std	1.51e+01	6.15e+00	1.50e+01	6.40e+00
T ₂₂	median	3.30e+02	4.08e+01 (+)	3.31e+02	4.83e+01 (+)	T ₄₇	median	1.11e-02	1.48e-03 (+)	9.33e-03	0.00e+00 (+)
	mean	3.25e+02	4.27e+01	3.30e+02	4.94e+01		mean	1.25e-02	1.78e-03	9.24e-03	2.96e-17
	std	1.72e+01	8.44e+00	1.27e+01	8.14e+00		std	4.13e-03	1.35e-03	8.88e-04	6.48e-17
T ₂₃	median	1.94e-02	5.16e-04 (+)	9.80e-03	0.00e+00 (+)	T ₄₈	median	4.11e+00	2.77e+00 (+)	3.14e+00	2.01e+00 (+)
	mean	3.00e-02	9.33e-04	9.74e-03	2.59e-17		mean	4.30e+00	2.58e+00	3.14e+00	1.85e+00
	std	3.26e-02	8.14e-04	8.54e-04	4.78e-17		std	7.46e-01	1.13e+00	1.25e-01	1.40e+00
T ₂₄	median	4.34e+00	2.84e+00 (+)	3.18e+00	2.21e+00 (+)	T ₄₉	median	3.42e+02	4.48e+01 (+)	3.32e+02	4.83e+01 (+)
	mean	4.65e+00	3.29e+00	3.18e+00	2.28e+00		mean	3.38e+02	4.42e+01	3.31e+02	5.03e+01
	std	9.60e-01	2.02e+00	9.68e-02	1.80e+00		std	1.51e+01	1.01e+01	1.22e+01	1.01e+01
T ₂₅	median	3.30e+02	4.18e+01 (+)	3.30e+02	4.78e+01 (+)	T ₅₀	median	1.35e-02	7.78e-04 (+)	9.04e-03	0.00e+00 (+)
	mean	3.30e+02	4.28e+01	3.25e+02	4.61e+01		mean	1.57e-02	9.32e-04	9.10e-03	2.96e-17
	std	1.15e+01	9.35e+00	1.87e+01	8.93e+00		std	8.19e-03	7.38e-04	7.43e-04	4.99e-17

Table S1.6. The median, mean, and standard deviation of the best fitness values obtained by EDA, MaT-EDA, AMaLGA, and MaT-AMaLGA over 30 independent runs on S6 in WCCI2020 single-objective many-tasking benchmark suite. “+”, “-”, and “≈” indicate that the corresponding result of MaT-EDA (or MaT-AMaLGA) is better than, similar to, and worse than that of EDA (or AMaLGA), respectively

Task	Stats.	EDA	MaT-EDA	AMaLGA	MaT-AMaLGA	Task	Stats.	EDA	MaT-EDA	AMaLGA	MaT-AMaLGA
T ₁	median	8.69e+01	2.56e+02 (-)	7.09e+01	4.00e+01 (+)	T ₂₆	median	1.38e-02	4.80e-05 (+)	9.04e-03	4.48e-06 (+)
	mean	9.19e+01	1.30e+03	7.08e+01	5.35e+01		mean	1.54e-02	3.74e-04	8.92e-03	4.66e-06
	std	1.17e+01	2.96e+03	1.77e+00	3.49e+01		std	6.68e-03	7.63e-04	1.05e-03	1.22e-06
T ₂	median	1.42e-02	8.48e-05 (+)	8.99e-03	4.45e-06 (+)	T ₂₇	median	1.55e+04	1.10e+04 (+)	1.55e+04	9.71e+03 (+)
	mean	2.18e-02	5.21e-04	9.01e-03	4.27e-06		mean	1.55e+04	1.09e+04	1.54e+04	9.70e+03
	std	2.43e-02	1.61e-03	7.40e-04	1.04e-06		std	4.37e+02	8.71e+02	4.45e+02	8.74e+02
T ₃	median	1.56e+04	1.09e+04 (+)	1.55e+04	9.39e+03 (+)	T ₂₈	median	1.17e+02	2.71e+02 (≈)	7.07e+01	3.66e+01 (+)
	mean	1.55e+04	1.08e+04	1.54e+04	9.50e+03		mean	1.23e+02	2.81e+03	7.05e+01	5.31e+01
	std	3.38e+02	1.12e+03	4.48e+02	6.64e+02		std	3.31e+01	8.89e+03	1.94e+00	4.39e+01
T ₄	median	1.38e+02	1.45e+02 (≈)	6.97e+01	3.65e+01 (+)	T ₂₉	median	1.16e-02	8.55e-05 (+)	9.07e-03	4.42e-06 (+)
	mean	1.75e+02	5.38e+03	6.98e+01	4.46e+01		mean	1.38e-02	3.94e-04	9.09e-03	4.51e-06
	std	1.02e+02	1.59e+04	2.56e+00	2.43e+01		std	9.51e-03	7.36e-04	8.00e-04	1.52e-06
T ₅	median	1.17e-02	1.08e-04 (+)	9.01e-03	4.76e-06 (+)	T ₃₀	median	1.56e+04	1.09e+04 (+)	1.55e+04	9.91e+03 (+)
	mean	1.62e-02	2.26e-04	9.08e-03	4.90e-06		mean	1.56e+04	1.09e+04	1.54e+04	9.80e+03
	std	1.98e-02	2.91e-04	8.69e-04	1.04e-06		std	5.27e+02	6.71e+02	3.56e+02	1.01e+03
T ₆	median	1.57e+04	1.10e+04 (+)	1.58e+04	9.63e+03 (+)	T ₃₁	median	1.12e+02	2.46e+02 (-)	6.96e+01	3.89e+01 (+)
	mean	1.55e+04	1.11e+04	1.57e+04	9.55e+03		mean	1.40e+02	4.05e+03	6.96e+01	6.41e+01
	std	5.12e+02	1.01e+03	4.07e+02	1.02e+03		std	1.13e+02	1.21e+04	2.89e+00	6.25e+01
T ₇	median	1.13e+02	2.22e+02 (≈)	6.98e+01	3.68e+01 (+)	T ₃₂	median	1.57e-02	9.26e-05 (+)	9.44e-03	4.52e-06 (+)
	mean	1.66e+02	5.63e+03	6.97e+01	4.05e+01		mean	2.50e-02	2.99e-04	9.33e-03	4.49e-06
	std	2.37e+02	1.25e+04	3.04e+00	1.59e+01		std	2.37e-02	5.18e-04	1.09e-03	1.18e-06
T ₈	median	1.10e-02	1.05e-04 (+)	9.24e-03	4.88e-06 (+)	T ₃₃	median	1.56e+04	1.11e+04 (+)	1.55e+04	9.86e+03 (+)
	mean	1.27e-02	2.35e-04	9.19e-03	4.79e-06		mean	1.55e+04	1.10e+04	1.54e+04	9.86e+03
	std	5.89e-03	3.83e-04	8.01e-04	1.24e-06		std	4.47e+02	9.58e+02	4.93e+02	8.67e+02
T ₉	median	1.56e+04	1.12e+04 (+)	1.56e+04	1.00e+04 (+)	T ₃₄	median	3.53e+02	4.43e+02 (≈)	7.07e+01	3.70e+01 (+)
	mean	1.57e+04	1.12e+04	1.56e+04	1.00e+04		mean	7.88e+02	6.10e+03	7.05e+01	8.39e+01
	std	3.78e+02	8.16e+02	4.36e+02	1.07e+03		std	1.21e+03	1.52e+04	1.76e+00	1.80e+02
T ₁₀	median	5.25e+02	1.34e+02 (+)	7.12e+01	3.79e+01 (+)	T ₃₅	median	1.33e-02	1.99e-04 (+)	8.93e-03	4.54e-06 (+)
	mean	7.26e+02	4.67e+02	7.14e+01	6.39e+01		mean	1.71e-02	4.47e-04	8.86e-03	4.43e-06
	std	9.40e+02	7.94e+02	2.75e+00	6.10e+01		std	7.60e-03	6.04e-04	7.30e-04	1.30e-06
T ₁₁	median	1.27e-02	6.78e-05 (+)	9.02e-03	4.55e-06 (+)	T ₃₆	median	1.57e+04	1.13e+04 (+)	1.57e+04	1.00e+04 (+)
	mean	1.63e-02	1.71e-04	9.02e-03	4.51e-06		mean	1.56e+04	1.11e+04	1.57e+04	9.87e+03
	std	1.07e-02	2.53e-04	1.04e-03	1.10e-06		std	3.58e+02	1.04e+03	2.57e+02	1.06e+03
T ₁₂	median	1.56e+04	1.10e+04 (+)	1.56e+04	9.64e+03 (+)	T ₃₇	median	9.22e+01	1.38e+02 (≈)	7.03e+01	3.83e+01 (≈)
	mean	1.55e+04	1.11e+04	1.56e+04	9.64e+03		mean	9.82e+01	4.96e+03	7.00e+01	7.28e+01
	std	4.51e+02	9.01e+02	4.01e+02	1.03e+03		std	2.05e+01	1.83e+04	2.17e+00	6.16e+01
T ₁₃	median	1.16e+02	4.48e+02 (-)	7.02e+01	3.76e+01 (+)	T ₃₈	median	2.22e-02	1.64e-04 (+)	9.11e-03	4.52e-06 (+)
	mean	1.52e+02	1.04e+04	6.97e+01	5.04e+01		mean	6.16e-02	3.93e-04	9.24e-03	2.51e-04
	std	7.85e+01	1.82e+04	2.46e+00	2.90e+01		std	8.22e-02	8.87e-04	8.39e-04	1.35e-03
T ₁₄	median	1.66e-02	1.81e-04 (+)	9.09e-03	4.57e-06 (+)	T ₃₉	median	1.55e+04	1.09e+04 (+)	1.57e+04	9.55e+03 (+)
	mean	2.28e-02	7.02e-04	9.15e-03	4.51e-06		mean	1.56e+04	1.11e+04	1.57e+04	9.57e+03
	std	1.59e-02	1.84e-03	7.74e-04	1.19e-06		std	4.28e+02	9.23e+02	3.76e+02	9.37e+02
T ₁₅	median	1.56e+04	1.09e+04 (+)	1.56e+04	9.80e+03 (+)	T ₄₀	median	1.24e+02	2.22e+02 (-)	7.12e+01	3.95e+01 (+)
	mean	1.55e+04	1.09e+04	1.55e+04	9.81e+03		mean	1.43e+02	1.10e+03	7.09e+01	9.09e+01
	std	4.27e+02	8.22e+02	4.48e+02	9.85e+02		std	5.57e+01	2.72e+03	2.80e+00	9.77e+01
T ₁₆	median	1.13e+02	2.53e+02 (-)	7.06e+01	3.75e+01 (+)	T ₄₁	median	2.00e-02	1.23e-04 (+)	9.21e-03	4.29e-06 (+)
	mean	1.28e+02	1.19e+03	7.08e+01	7.05e+01		mean	4.10e-02	2.96e-04	9.16e-03	4.54e-06
	std	4.13e+01	2.86e+03	3.11e+00	1.26e+02		std	5.60e-02	4.47e-04	1.15e-03	1.09e-06
T ₁₇	median	1.50e-02	1.99e-04 (+)	9.45e-03	4.48e-06 (+)	T ₄₂	median	1.56e+04	1.14e+04 (+)	1.56e+04	9.86e+03 (+)
	mean	2.06e-02	7.65e-04	9.39e-03	4.51e-06		mean	1.56e+04	1.13e+04	1.54e+04	9.87e+03
	std	2.09e-02	2.09e-03	8.26e-04	1.43e-06		std	3.14e+02	8.67e+02	6.89e+02	8.23e+02
T ₁₈	median	1.56e+04	1.14e+04 (+)	1.56e+04	9.66e+03 (+)	T ₄₃	median	2.28e+02	3.66e+02 (≈)	7.06e+01	3.91e+01 (≈)
	mean	1.55e+04	1.14e+04	1.54e+04	9.66e+03		mean	3.12e+02	2.28e+03	7.08e+01	1.27e+02
	std	4.18e+02	8.14e+02	5.35e+02	1.09e+03		std	2.54e+02	6.15e+03	3.00e+00	2.54e+02
T ₁₉	median	1.20e+02	2.24e+02 (≈)	6.97e+01	3.71e+01 (+)	T ₄₄	median	1.11e-02	1.74e-04 (+)	9.46e-03	4.37e-06 (+)
	mean	1.49e+02	6.58e+03	6.96e+01	4.48e+01		mean	1.31e-02	4.93e-04	9.36e-03	4.44e-06
	std	1.20e+02	1.46e+04	2.58e+00	2.42e+01		std	5.89e-03	8.48e-04	8.12e-04	1.37e-06
T ₂₀	median	1.30e-02	1.92e-04 (+)	9.60e-03	4.75e-06 (+)	T ₄₅	median	1.56e+04	1.10e+04 (+)	1.56e+04	9.57e+03 (+)
	mean	1.90e-02	2.38e-04	9.44e-03	4.72e-06		mean	1.56e+04	1.10e+04	1.56e+04	9.64e+03
	std	2.55e-02	2.52e-04	8.96e-04	1.16e-06		std	3.91e+02	1.15e+03	1.56e+02	9.20e+02
T ₂₁	median	1.57e+04	1.14e+04 (+)	1.54e+04	9.63e+03 (+)	T ₄₆	median	2.42e+02	4.88e+02 (-)	7.25e+01	4.43e+01 (≈)
	mean	1.57e+04	1.14e+04	1.54e+04	9.66e+03		mean	3.43e+02	1.51e+03	7.33e+01	1.48e+02
	std	4.20e+02	8.44e+02	4.88e+02	9.06e+02		std	2.66e+02	2.53e+03	3.46e+00	1.80e+02
T ₂₂	median	1.27e+02	4.49e+02 (-)	7.05e+01	3.79e+01 (+)	T ₄₇	median	1.28e-02	1.15e-04 (+)	9.54e-03	4.64e-06 (+)
	mean	1.47e+02	9.52e+02	7.03e+01	5.33e+01		mean	1.90e-02	3.50e-04	9.50e-03	4.66e-06
	std	6.39e+01	1.15e+03	2.58e+00	3.49e+01		std	2.48e-02	5.38e-04	8.40e-04	1.29e-06
T ₂₃	median	1.22e-02	1.11e-04 (+)	8.88e-03	4.56e-06 (+)	T ₄₈	median	1.57e+04	1.13e+04 (+)	1.56e+04	9.93e+03 (+)
	mean	1.96e-02	2.17e-04	9.01e-03	4.50e-06		mean	1.57e+04	1.14e+04	1.56e+04	9.87e+03
	std	2.72e-02	4.08e-04	9.65e-04	1.18e-06		std	4.14e+02	8.79e+02	4.07e+02	9.12e+02
T ₂₄	median	1.58e+04	1.10e+04 (+)	1.57e+04	9.61e+03 (+)	T ₄₉	median	1.06e+02	1.43e+02 (≈)	6.99e+01	3.87e+01 (≈)
	mean	1.58e+04	1.11e+04	1.56e+04	9.66e+03		mean	1.09e+02	1.68e+03	7.01e+01	8.12e+01
	std	4.74e+02	9.15e+02	4.18e+02	7.70e+02		std	2.44e+01	6.18e+03	3.27e+00	7.36e+01
T ₂₅	median	1.06e+02	1.36e+02 (≈)	7.06e+01	3.77e+01 (+)	T ₅₀	median	1.56e-02	1.14e-04 (+)	9.17e-03	4.94e-06 (+)
	mean	1.23e+02	7.06e+01	6.02e+01	3.72e+01		mean	2.71e-02	6.24e-04	9.11e-03	4.78e-06
	std	4.35e+01	3.03e+03	2.41e+00	7.56e+01		std	3.12e-02	1.53e-03	1.03e-03	1.32e-06

Table S1.7. The median, mean, and standard deviation of the best fitness values obtained by EDA, MaT-EDA, AMaLGA, and MaT-AMaLGA over 30 independent runs on S7 in WCCI2020 single-objective many-tasking benchmark suite. “+”, “-”, and “≈” indicate that the corresponding result of MaT-EDA (or MaT-AMaLGA) is better than, similar to, and worse than that of EDA (or AMaLGA), respectively

Task	Stats.	EDA	MaT-EDA	AMaLGA	MaT-AMaLGA	Task	Stats.	EDA	MaT-EDA	AMaLGA	MaT-AMaLGA
T ₁	median	1.04e+00	4.37e-12 (+)	3.58e-01	5.43e-13 (+)	T ₂₆	median	3.37e+02	4.43e+01 (+)	3.34e+02	4.18e+01 (+)
	mean	1.21e+00	3.23e-12	3.53e-01	5.52e-13		mean	3.36e+02	4.51e+01	3.29e+02	4.31e+01
	std	6.61e-01	1.68e-12	2.05e-02	1.17e-13		std	1.20e+01	1.00e+01	1.92e+01	1.05e+01
T ₂	median	3.39e+02	4.38e+01 (+)	3.29e+02	4.63e+01 (+)	T ₂₇	median	4.62e+00	2.76e+00 (+)	3.16e+00	1.95e+00 (+)
	mean	3.35e+02	4.52e+01	3.31e+02	4.84e+01		mean	4.60e+00	2.65e+00	3.16e+00	1.97e+00
	std	1.28e+01	7.57e+00	9.55e+00	1.22e+01		std	8.67e-01	1.03e+00	1.19e-01	1.29e+00
T ₃	median	5.48e+00	2.73e+00 (+)	3.16e+00	1.83e+00 (+)	T ₂₈	median	5.45e-01	4.24e-12 (+)	3.52e-01	5.60e-13 (+)
	mean	5.89e+00	2.92e+00	3.15e+00	2.02e+00		mean	7.28e-01	3.14e-12	3.51e-01	5.84e-13
	std	1.61e+00	1.52e+00	1.24e-01	1.36e+00		std	4.35e-01	1.61e-12	2.42e-02	1.30e-13
T ₄	median	1.18e+00	4.35e-12 (+)	3.64e-01	5.50e-13 (+)	T ₂₉	median	3.29e+02	4.33e+01 (+)	3.32e+02	4.73e+01 (+)
	mean	1.21e+00	3.19e-12	3.62e-01	5.42e-13		mean	3.29e+02	4.37e+01	3.31e+02	4.90e+01
	std	4.83e-01	1.65e-12	1.91e-02	9.67e-14		std	1.30e+01	7.86e+00	1.52e+01	1.06e+01
T ₅	median	3.35e+02	3.90e+01 (+)	3.33e+02	4.83e+01 (+)	T ₃₀	median	4.50e+00	2.93e+00 (+)	3.20e+00	2.06e+00 (+)
	mean	3.35e+02	4.07e+01	3.30e+02	4.96e+01		mean	4.69e+00	3.08e+00	3.20e+00	2.20e+00
	std	1.23e+01	8.76e+00	1.39e+01	1.01e+01		std	9.21e-01	1.58e+00	9.91e-02	1.33e+00
T ₆	median	3.92e+00	2.76e+00 (+)	3.15e+00	1.85e+00 (+)	T ₃₁	median	1.65e+00	4.26e-12 (+)	3.53e-01	5.05e-13 (+)
	mean	4.26e+00	3.13e+00	3.15e+00	1.85e+00		mean	1.51e+00	3.16e-12	3.55e-01	5.24e-13
	std	1.03e+00	1.73e+00	9.67e-02	1.43e+00		std	6.77e-01	1.61e-12	3.06e-02	1.09e-13
T ₇	median	1.07e+00	4.39e-12 (+)	3.50e-01	5.39e-13 (+)	T ₃₂	median	3.33e+02	4.17e+01 (+)	3.34e+02	4.97e+01 (+)
	mean	1.19e+00	3.21e-12	3.51e-01	5.55e-13		mean	3.30e+02	4.17e+01	3.30e+02	4.90e+01
	std	6.14e-01	1.65e-12	2.87e-02	8.17e-14		std	1.34e+01	9.05e+00	1.53e+01	1.15e+01
T ₈	median	3.34e+02	4.33e+01 (+)	3.34e+02	4.93e+01 (+)	T ₃₃	median	3.74e+00	2.21e+00 (+)	3.17e+00	1.20e+00 (+)
	mean	3.29e+02	4.33e+01	3.32e+02	4.79e+01		mean	3.96e+00	2.49e+00	3.17e+00	1.25e+00
	std	1.67e+01	9.25e+00	1.46e+01	1.07e+01		std	6.92e-01	1.51e+00	1.18e-01	7.81e-01
T ₉	median	4.47e+00	2.84e+00 (+)	3.19e+00	2.90e+00 (≈)	T ₃₄	median	5.89e-01	4.22e-12 (+)	3.48e-01	5.55e-13 (+)
	mean	4.58e+00	2.90e+00	3.18e+00	2.58e+00		mean	8.06e-01	3.16e-12	3.51e-01	5.65e-13
	std	8.82e-01	1.50e+00	1.25e-01	1.29e+00		std	4.75e-01	1.63e-12	2.59e-02	1.41e-13
T ₁₀	median	5.34e-01	4.37e-12 (+)	3.42e-01	5.71e-13 (+)	T ₃₅	median	3.29e+02	3.74e+01 (+)	3.31e+02	4.93e+01 (+)
	mean	6.56e-01	3.21e-12	3.43e-01	5.81e-13		mean	3.29e+02	4.14e+01	3.30e+02	4.99e+01
	std	3.64e-01	1.66e-12	2.79e-02	1.22e-13		std	1.51e+01	9.29e+00	8.90e+00	9.75e+00
T ₁₁	median	3.31e+02	4.13e+01 (+)	3.34e+02	4.68e+01 (+)	T ₃₆	median	3.96e+00	2.88e+00 (+)	3.19e+00	2.05e+00 (+)
	mean	3.31e+02	4.27e+01	3.31e+02	4.80e+01		mean	4.32e+00	3.12e+00	3.16e+00	2.29e+00
	std	1.28e+01	9.01e+00	1.48e+01	7.56e+00		std	1.11e+00	1.59e+00	1.21e-01	1.65e+00
T ₁₂	median	4.31e+00	2.79e+00 (+)	3.18e+00	2.26e+00 (+)	T ₃₇	median	7.24e-01	4.30e-12 (+)	3.52e-01	5.34e-13 (+)
	mean	4.58e+00	3.12e+00	3.17e+00	2.29e+00		mean	1.16e+00	3.20e-12	3.55e-01	5.38e-13
	std	1.11e+00	1.58e+00	1.03e-01	1.07e+00		std	7.57e-01	1.64e-12	2.56e-02	9.97e-14
T ₁₃	median	5.21e-01	4.29e-12 (+)	3.51e-01	5.60e-13 (+)	T ₃₈	median	3.39e+02	4.28e+01 (+)	3.29e+02	4.68e+01 (+)
	mean	6.47e-01	3.17e-12	3.51e-01	5.36e-13		mean	3.34e+02	4.39e+01	3.27e+02	4.81e+01
	std	3.27e-01	1.61e-12	2.76e-02	8.98e-14		std	1.58e+01	7.65e+00	1.22e+01	8.13e+00
T ₁₄	median	3.36e+02	4.08e+01 (+)	3.29e+02	4.68e+01 (+)	T ₃₉	median	3.78e+00	1.93e+00 (+)	3.13e+00	1.52e+00 (+)
	mean	3.34e+02	4.04e+01	3.29e+02	4.72e+01		mean	3.95e+00	2.03e+00	3.13e+00	1.76e+00
	std	1.34e+01	8.35e+00	1.22e+01	9.60e+00		std	5.72e-01	1.13e+00	9.81e-02	1.57e+00
T ₁₅	median	5.65e+00	3.70e+00 (+)	3.17e+00	1.98e+00 (+)	T ₄₀	median	9.81e-01	4.31e-12 (+)	3.51e+01	5.44e-13 (+)
	mean	5.64e+00	3.65e+00	3.17e+00	2.72e+00		mean	1.10e+00	3.21e-12	3.59e-01	5.56e-13
	std	9.94e-01	1.49e+00	1.33e-01	2.13e+00		std	5.44e-01	1.66e-12	2.66e-02	1.14e-13
T ₁₆	median	9.80e-01	4.10e-12 (+)	3.57e-01	5.55e-13 (+)	T ₄₁	median	3.35e+02	4.58e+01 (+)	3.31e+02	4.68e+01 (+)
	mean	1.05e+00	3.13e-12	3.56e-01	5.58e-13		mean	3.35e+02	4.54e+01	3.29e+02	4.71e+01
	std	4.78e-01	1.59e-12	2.03e-02	1.01e-13		std	1.18e+01	8.31e+00	1.37e+01	9.59e+00
T ₁₇	median	3.34e+02	4.38e+01 (+)	3.33e+02	4.78e+01 (+)	T ₄₂	median	4.29e+00	2.42e+00 (+)	3.17e+00	1.60e+00 (+)
	mean	3.34e+02	4.43e+01	3.32e+02	4.58e+01		mean	4.58e+00	2.62e+00	3.17e+00	1.68e+00
	std	1.17e+01	9.50e+00	1.06e+01	1.04e+01		std	1.00e+00	1.18e+00	1.08e-01	1.23e+00
T ₁₈	median	4.84e+00	2.53e+00 (+)	3.16e+00	2.23e+00 (+)	T ₄₃	median	5.56e-01	4.10e-12 (+)	3.49e-01	5.66e-13 (+)
	mean	4.81e+00	2.66e+00	3.17e+00	2.27e+00		mean	7.34e-01	3.13e-12	3.48e-01	5.57e-13
	std	9.72e-01	1.85e+00	1.07e-01	1.74e+00		std	4.34e-01	1.58e-12	2.66e-02	9.20e-14
T ₁₉	median	9.63e-01	4.29e-12 (+)	3.59e-01	5.18e-13 (+)	T ₄₄	median	3.36e+02	4.04e+01 (+)	3.25e+02	4.93e+01 (+)
	mean	1.24e+00	3.18e-12	3.56e-01	5.37e-13		mean	3.34e+02	4.11e+01	3.25e+02	4.86e+01
	std	7.28e-01	1.64e-12	2.47e-02	1.23e-13		std	1.52e+01	7.58e+00	1.46e+01	1.02e+01
T ₂₀	median	3.37e+02	4.34e+01 (+)	3.30e+02	4.53e+01 (+)	T ₄₅	median	3.88e+00	2.27e+00 (+)	3.12e+00	2.09e+00 (+)
	mean	3.38e+02	4.53e+01	3.29e+02	4.61e+01		mean	4.07e+00	3.05e+00	3.14e+00	2.14e+00
	std	1.12e+01	1.08e+01	9.26e+00	9.90e+00		std	7.08e-01	2.17e+00	1.26e-01	1.43e+00
T ₂₁	median	4.07e+00	2.85e+00 (+)	3.15e+00	2.41e+00 (+)	T ₄₆	median	6.36e-01	4.36e-12 (+)	3.44e-01	5.27e-13 (+)
	mean	4.20e+00	2.88e+00	3.15e+00	2.21e+00		mean	8.75e-01	3.20e-12	3.42e-01	5.40e-13
	std	6.84e-01	1.71e+00	1.14e-01	1.47e+00		std	5.00e-01	1.67e-12	2.83e-02	1.06e-13
T ₂₂	median	9.49e-01	4.36e-12 (+)	3.50e-01	5.28e-13 (+)	T ₄₇	median	3.33e+02	4.18e+01 (+)	3.35e+02	4.83e+01 (+)
	mean	1.21e+00	3.18e-12	3.55e-01	5.41e-13		mean	3.33e+02	4.18e+01	3.29e+02	4.77e+01
	std	6.94e-01	1.63e-12	2.50e-02	9.01e-14		std	1.79e+01	7.19e+00	1.68e+01	8.93e+00
T ₂₃	median	3.35e+02	4.38e+01 (+)	3.31e+02	5.27e+01 (+)	T ₄₈	median	4.74e+00	2.84e+00 (+)	3.22e+00	1.55e+00 (+)
	mean	3.34e+02	4.38e+01	3.30e+02	5.26e+01		mean	4.61e+00	2.90e+00	3.18e+00	1.71e+00
	std	1.23e+01	1.03e+01	9.08e+00	1.18e+01		std	1.06e+00	1.76e+00	1.27e-01	1.22e+00
T ₂₄	median	4.80e+00	2.96e+00 (+)	3.19e+00	1.62e+00 (+)	T ₄₉	median	6.94e-01	4.40e-12 (+)	3.57e-01	5.09e-13 (+)
	mean	5.03e+00	3.18e+00	3.18e+00	1.95e+00		mean	8.84e-01	3.22e-12	3.51e-01	5.26e-13
	std	1.21e+00	1.67e+00	1.21e-01	1.41e+00		std	5.07e-01	1.68e-12	2.44e-02	8.44e-14
T ₂₅	median	6.83e-01	4.33e-12 (+)	3.55e-01	5.75e-13 (+)	T ₅₀	median	3.29e+02	4.28e+01 (+)	3.32e+02	4.58e+01 (+)
	mean	8.52e-01	3.22e-12	3.52e-01	5.58e-13		mean	3.31e+02	4.26e+01	3.30e+02	4.64e+01
	std	5.46e-01	1.68e-12	3.13e-02	7.87e-14		std	1.64e+01	8.61e+00	1.36e+01	1.12e+01

Table S1.8. The median, mean, and standard deviation of the best fitness values obtained by EDA, MaT-EDA, AMaLGA, and MaT-AMaLGA over 30 independent runs on **S8** in WCCI2020 single-objective many-tasking benchmark suite. “+”, “-”, and “≈” indicate that the corresponding result of MaT-EDA (or MaT-AMaLGA) is better than, similar to, and worse than that of EDA (or AMaLGA), respectively

Task	Stats.	EDA	MaT-EDA	AMaLGA	MaT-AMaLGA	Task	Stats.	EDA	MaT-EDA	AMaLGA	MaT-AMaLGA
T ₁	median	6.33e+06	1.46e+02 (+)	6.99e+01	3.56e+01 (+)	T ₂₆	median	1.23e+07	2.01e+02 (+)	6.97e+01	3.78e+01 (+)
	mean	6.48e+06	2.31e+03	6.99e+01	4.71e+01		mean	1.18e+07	1.24e+03	6.95e+01	1.23e+02
	std	2.39e+06	6.44e+03	1.81e+00	3.53e+01		std	4.03e+06	2.50e+03	1.91e+00	3.22e+02
T ₂	median	1.15e+01	3.04e-12 (+)	4.32e-01	1.84e-03 (+)	T ₂₇	median	1.02e+01	3.07e-12 (+)	4.25e-01	1.83e-03 (+)
	mean	1.17e+01	4.58e-02	4.30e-01	1.96e-03		mean	1.01e+01	3.21e-12	4.22e-01	1.98e-03
	std	8.26e-01	1.97e-01	2.98e-02	5.26e-04		std	1.14e+00	1.89e-12	3.27e-02	4.86e-04
T ₃	median	1.43e+03	3.98e+01 (+)	3.26e+02	4.43e+01 (+)	T ₂₈	median	1.67e+03	4.28e+01 (+)	3.31e+02	4.88e+01 (+)
	mean	1.40e+03	4.03e+01	3.25e+02	4.80e+01		mean	1.66e+03	4.19e+01	3.29e+02	4.91e+01
	std	1.62e+02	7.64e+00	1.79e+01	1.20e+01		std	1.86e+02	8.32e+00	1.37e+01	1.14e+01
T ₄	median	3.32e+00	8.48e-04 (+)	9.16e-03	1.41e-06 (+)	T ₂₉	median	2.81e+00	7.23e-04 (+)	9.29e-03	1.49e-06 (+)
	mean	3.34e+00	1.30e-03	9.25e-03	1.63e-06		mean	2.87e+00	9.73e-04	9.39e-03	1.73e-06
	std	2.79e-01	1.30e-03	9.31e-04	6.79e-07		std	2.39e-01	9.46e-04	8.22e-04	8.35e-07
T ₅	median	1.48e+01	5.73e+00 (+)	3.27e+00	3.54e+00 (≈)	T ₃₀	median	1.96e+01	6.39e+00 (+)	3.30e+00	4.32e+00 (≈)
	mean	1.48e+01	5.64e+00	3.29e+00	3.69e+00		mean	1.96e+01	6.58e+00	3.27e+00	4.62e+00
	std	2.12e+00	1.69e+00	1.56e-01	1.79e+00		std	1.97e+00	2.79e+00	1.59e-01	2.81e+00
T ₆	median	3.17e+06	2.04e+02 (+)	6.94e+01	3.59e+01 (+)	T ₃₁	median	2.50e+07	2.13e+02 (+)	7.05e+01	3.84e+01 (+)
	mean	3.77e+06	5.16e+03	6.95e+01	3.66e+01		mean	2.71e+07	6.76e+02	7.13e+01	1.19e+02
	std	1.62e+06	1.35e+04	2.59e+00	3.78e+00		std	8.98e+06	1.13e+03	3.19e+00	1.53e+02
T ₇	median	7.81e+00	3.04e-12 (+)	3.98e-01	1.86e-03 (+)	T ₃₂	median	1.18e+01	2.90e-12 (+)	4.20e-01	1.84e-03 (+)
	mean	7.66e+00	3.19e-12	3.99e-01	1.97e-03		mean	1.15e+01	3.23e-12	4.23e-01	1.96e-03
	std	1.55e+00	1.87e-12	1.94e-02	5.00e-04		std	1.22e+00	1.90e-12	2.93e-02	6.10e-04
T ₈	median	1.64e+03	3.93e+01 (+)	3.32e+02	4.68e+01 (+)	T ₃₃	median	1.46e+03	4.23e+01 (+)	3.30e+02	4.58e+01 (+)
	mean	1.64e+03	4.34e+01	3.30e+02	4.76e+01		mean	1.49e+03	4.33e+01	3.29e+02	4.58e+01
	std	2.23e+02	1.10e+01	1.24e+01	1.18e+01		std	1.62e+02	6.70e+00	1.28e+01	8.69e+00
T ₉	median	3.63e+00	6.83e-04 (+)	9.36e-03	1.51e-06 (+)	T ₃₄	median	2.97e+00	8.04e-04 (+)	8.99e-03	1.55e-06 (+)
	mean	3.63e+00	8.98e-04	9.23e-03	1.77e-06		mean	2.98e+00	9.84e-04	9.10e-03	1.85e-06
	std	2.50e-01	6.54e-04	7.78e-04	1.24e-06		std	2.57e-01	9.12e-04	6.81e-04	1.05e-06
T ₁₀	median	1.48e+01	6.63e+00 (+)	3.37e+00	5.53e+00 (-)	T ₃₅	median	2.08e+01	5.55e+00 (+)	3.27e+00	4.11e+00 (≈)
	mean	1.52e+01	6.62e+00	3.36e+00	5.45e+00		mean	2.06e+01	5.46e+00	3.26e+00	4.24e+00
	std	2.01e+00	2.55e+00	1.42e-01	2.31e+00		std	2.23e+00	1.94e+00	9.76e-02	2.28e+00
T ₁₁	median	3.58e+06	1.10e+03 (+)	6.99e+01	3.49e+01 (+)	T ₃₆	median	2.34e+05	2.94e+02 (+)	7.11e+01	3.52e+01 (+)
	mean	3.73e+06	1.14e+04	6.96e+01	3.64e+01		mean	3.33e+05	9.69e+02	7.08e+01	6.89e+01
	std	1.41e+06	2.20e+04	1.96e+00	7.76e+00		std	2.57e+05	1.44e+03	1.82e+00	1.10e+02
T ₁₂	median	8.90e+00	3.05e-12 (+)	4.12e-01	1.80e-03 (+)	T ₃₇	median	1.14e+01	3.10e-12 (+)	4.29e-01	1.78e-03 (+)
	mean	8.87e+00	3.24e-12	4.05e-01	1.93e-03		mean	1.14e+01	6.50e-03	4.32e-01	1.97e-03
	std	1.25e+00	1.91e-12	2.99e-02	4.00e-04		std	9.56e-01	3.56e-02	3.88e-02	5.71e-04
T ₁₃	median	1.07e+03	4.23e+01 (+)	3.31e+02	4.88e+01 (+)	T ₃₈	median	2.43e+03	4.13e+01 (+)	3.30e+02	4.93e+01 (+)
	mean	1.08e+03	4.41e+01	3.29e+02	5.01e+01		mean	2.52e+03	4.30e+01	3.29e+02	4.83e+01
	std	1.60e+02	7.68e+00	1.42e+01	1.42e+01		std	2.99e+02	1.06e+01	1.53e+01	1.16e+01
T ₁₄	median	1.71e+00	7.55e-04 (+)	9.26e-03	1.45e-06 (+)	T ₃₉	median	2.72e+00	6.10e-04 (+)	9.07e-03	1.58e-06 (+)
	mean	1.73e+00	1.19e-03	9.18e-03	1.77e-06		mean	2.74e+00	9.68e-04	9.05e-03	1.88e-06
	std	1.35e-01	8.50e-04	8.39e-04	1.17e-06		std	2.18e-01	7.74e-04	8.28e-04	1.01e-06
T ₁₅	median	2.14e+01	6.66e+00 (+)	3.32e+00	4.95e+00 (-)	T ₄₀	median	1.87e+01	5.41e+00 (+)	3.27e+00	3.89e+00 (≈)
	mean	2.14e+01	6.96e+00	3.31e+00	4.76e+00		mean	1.89e+01	5.87e+00	3.25e+00	4.12e+00
	std	2.29e+00	2.64e+00	1.36e-01	2.09e+00		std	2.50e+00	2.83e+00	1.16e-01	2.26e+00
T ₁₆	median	3.99e+07	1.33e+02 (+)	7.16e+01	8.21e+01 (+)	T ₄₁	median	8.13e+06	2.68e+02 (+)	7.16e+01	4.20e+01 (≈)
	mean	3.94e+07	5.00e+02	7.13e+01	8.20e+01		mean	8.66e+06	4.16e+03	7.11e+01	2.53e+02
	std	8.61e+06	1.47e+03	4.07e+00	1.06e+02		std	3.45e+06	1.81e+04	2.75e+00	4.98e+02
T ₁₇	median	1.00e+01	3.08e-12 (+)	4.29e-01	1.89e-03 (+)	T ₄₂	median	1.19e+01	4.75e-12 (+)	4.31e-01	1.88e-03 (+)
	mean	1.00e+01	2.29e-03	4.16e-01	1.96e-03		mean	1.18e+01	1.06e-01	4.29e-01	1.98e-03
	std	1.08e+00	1.25e-02	3.55e-02	4.52e-04		std	9.96e-01	4.09e-01	3.78e-02	5.41e-04
T ₁₈	median	2.97e+03	4.53e+01 (+)	3.29e+02	4.83e+01 (+)	T ₄₃	median	1.28e+03	3.98e+01 (+)	3.36e+02	4.63e+01 (+)
	mean	2.99e+03	4.57e+01	3.27e+02	4.92e+01		mean	1.26e+03	4.12e+01	3.31e+02	4.80e+01
	std	3.07e+02	8.46e+00	1.33e+01	1.26e+01		std	2.16e+02	9.97e+00	1.53e+01	1.26e+01
T ₁₉	median	2.72e+00	8.52e-04 (+)	9.19e-03	1.45e-06 (+)	T ₄₄	median	1.82e+00	1.25e-03 (+)	8.65e-03	1.64e-06 (+)
	mean	2.74e+00	1.12e-03	9.00e-03	3.30e-04		mean	1.82e+00	1.84e-03	8.61e-03	4.95e-04
	std	2.26e-01	8.83e-04	1.13e-03	1.80e-03		std	9.56e-02	1.86e-03	8.22e-04	1.88e-03
T ₂₀	median	1.81e+01	6.73e+00 (+)	3.44e+00	4.63e+00 (-)	T ₄₅	median	1.40e+01	4.95e+00 (+)	3.28e+00	3.35e+00 (≈)
	mean	1.82e+01	6.70e+00	3.47e+00	4.57e+00		mean	1.44e+01	4.92e+00	3.28e+00	3.59e+00
	std	1.95e+00	2.14e+00	2.23e-01	1.83e+00		std	1.97e+00	2.28e+00	1.16e-01	1.87e+00
T ₂₁	median	1.76e+07	4.05e+04 (+)	6.96e+01	3.74e+01 (+)	T ₄₆	median	7.03e+06	2.69e+02 (+)	6.93e+01	3.54e+01 (+)
	mean	1.91e+07	4.63e+04	6.99e+01	3.73e+01		mean	7.47e+06	4.95e+03	6.90e+01	4.49e+01
	std	5.10e+06	3.72e+04	3.24e+00	8.50e+00		std	2.08e+06	1.28e+04	2.05e+00	2.83e+01
T ₂₂	median	1.17e+01	3.03e-12 (+)	4.27e-01	1.82e-03 (+)	T ₄₇	median	1.09e+01	4.83e-12 (+)	4.34e-01	1.77e-03 (+)
	mean	1.18e+01	5.08e-04	4.26e-01	1.96e-03		mean	1.10e+01	4.91e-02	4.24e-01	1.93e-03
	std	1.16e+00	2.78e-03	3.45e-02	4.78e-04		std	1.35e+00	2.69e-01	2.90e-02	5.14e-04
T ₂₃	median	3.31e+03	4.68e+01 (+)	3.33e+02	4.68e+01 (+)	T ₄₈	median	1.75e+03	4.48e+01 (+)	3.33e+02	4.53e+01 (+)
	mean	3.28e+03	4.74e+01	3.33e+02	5.01e+01		mean	1.71e+03	4.43e+01	3.31e+02	4.63e+01
	std	3.47e+02	9.78e+00	1.13e+01	1.14e+01		std	2.62e+02	6.95e+00	1.27e+01	9.28e+00
T ₂₄	median	2.24e+00	1.12e-03 (+)	8.91e-03	1.43e-06 (+)	T ₄₉	median	2.92e+00	1.09e-03 (+)	9.32e-03	1.48e-06 (+)
	mean	2.24e+00	1.86e-03	9.01e-03	2.48e-04		mean	2.92e+00	1.66e-03	9.18e-03	1.76e-06
	std	1.97e-01	1.95e-03	9.95e-04	1.35e-03		std	2.25e-01	2.04e-03	1.01e-03	9.35e-07
T ₂₅	median	1.66e+01	5.95e+00 (+)	3.31e+00	4.64e+00 (-)	T ₅₀	median	1.65e+01	5.51e+00 (+)	3.28e+00	3.56e+00 (≈)
	mean	1.64e+01	5.74e+00	3.33e+00	4.36e+00		mean	1.66e+01	5.50e+00	3.26e+00	3.71e+00
	std	2.12e+00	2.32e+00	1.41e-01	2.22e+00		std	2.19e+00	1.96e+00	1.23e-01	1.92e+00

Table S1.9. The median, mean, and standard deviation of the best fitness values obtained by EDA, MaT-EDA, AMaLGA, and MaT-AMaLGA over 30 independent runs on S9 in WCCI2020 single-objective many-tasking benchmark suite. “+”, “-”, and “≈” indicate that the corresponding result of MaT-EDA (or MaT-AMaLGA) is better than, similar to, and worse than that of EDA (or AMaLGA), respectively

Task	Stats.	EDA	MaT-EDA	AMaLGA	MaT-AMaLGA	Task	Stats.	EDA	MaT-EDA	AMaLGA	MaT-AMaLGA
T ₁	median	4.65e+06	2.02e+02 (+)	7.27e+01	4.24e+01 (≈)	T ₂₆	median	1.27e+01	1.50e-12 (+)	4.47e-01	1.65e-03 (+)
	mean	4.85e+06	7.84e+02	7.30e+01	1.75e+02		mean	1.25e+01	4.91e-02	4.41e-01	1.65e-03
	std	1.60e+06	1.44e+03	3.79e+00	3.62e+02		std	8.66e-01	2.69e-01	3.70e-02	4.32e-04
T ₂	median	1.00e+01	1.55e-12 (+)	4.18e-01	1.68e-03 (+)	T ₂₇	median	9.40e+02	4.58e+01 (+)	3.29e+02	4.97e+01 (+)
	mean	9.95e+00	3.01e-12	4.21e-01	1.74e-03		mean	9.37e+02	4.64e+01	3.25e+02	4.76e+01
	std	1.29e+00	2.06e-12	2.16e-02	3.91e-04		std	1.18e+02	1.14e+01	1.82e+01	9.78e+00
T ₃	median	1.59e+03	4.33e+01 (+)	3.28e+02	4.23e+01 (+)	T ₂₈	median	2.04e+00	7.81e-04 (+)	9.26e-03	1.12e-06 (+)
	mean	1.57e+03	4.27e+01	3.27e+02	4.68e+01		mean	2.03e+00	1.24e-03	9.08e-03	2.48e-04
	std	2.08e+02	8.75e+00	1.28e+01	1.35e+01		std	1.55e-01	9.98e-04	9.09e-04	1.35e-03
T ₄	median	1.32e+00	8.23e-04 (+)	9.31e-03	1.19e-06 (+)	T ₂₉	median	1.83e+01	4.54e+00 (+)	3.29e+00	4.46e+00 (≈)
	mean	1.33e+00	1.38e-03	9.15e-03	1.33e-06		mean	1.80e+01	4.94e+00	3.31e+00	4.47e+00
	std	9.22e-02	1.37e-03	7.67e-04	6.54e-07		std	1.97e+00	2.09e+00	2.57e-01	2.40e+00
T ₅	median	1.60e+01	4.42e+00 (+)	3.40e+00	4.00e+00 (-)	T ₃₀	median	1.51e+04	9.73e+03 (+)	1.49e+04	8.63e+03 (+)
	mean	1.62e+01	4.90e+00	3.39e+00	4.12e+00		mean	1.49e+04	9.59e+03	1.47e+04	8.40e+03
	std	2.14e+00	2.06e+00	1.74e-01	1.96e+00		std	4.77e+02	8.25e+02	5.22e+02	8.58e+02
T ₆	median	1.46e+04	9.53e+03 (+)	1.44e+04	8.26e+03 (+)	T ₃₁	median	6.74e+06	4.90e+02 (+)	7.08e+01	3.82e+01 (+)
	mean	1.46e+04	9.73e+03	1.44e+04	8.21e+03		mean	7.01e+06	8.83e+02	7.06e+01	7.42e+01
	std	4.11e+02	7.92e+02	4.58e+02	9.08e+02		std	2.67e+06	1.02e+03	2.94e+00	7.37e+01
T ₇	median	1.14e+07	1.39e+03 (+)	6.93e+01	3.59e+01 (+)	T ₃₂	median	1.06e+01	1.52e-12 (+)	4.17e-01	1.67e-03 (+)
	mean	1.28e+07	8.00e+03	6.97e+01	5.45e+01		mean	1.09e+01	2.96e-12	4.24e-01	1.71e-03
	std	4.14e+06	1.41e+04	2.52e+00	5.55e+01		std	1.33e+00	2.01e-12	3.30e-02	3.76e-04
T ₈	median	9.71e+00	1.53e-12 (+)	4.10e-01	1.63e-03 (+)	T ₃₃	median	2.39e+03	4.23e+01 (+)	3.30e+02	4.88e+01 (+)
	mean	9.82e+00	2.95e-12	4.11e-01	1.67e-03		mean	2.39e+03	4.26e+01	3.28e+02	5.10e+01
	std	1.49e+00	2.00e-12	2.21e-02	3.28e-04		std	2.47e+02	1.02e+01	1.83e+01	1.18e+01
T ₉	median	1.71e+03	4.23e+01 (+)	3.30e+02	4.58e+01 (+)	T ₃₄	median	1.70e+00	1.12e-03 (+)	9.14e-03	1.29e-06 (+)
	mean	1.73e+03	4.24e+01	3.29e+02	4.51e+01		mean	1.73e+00	1.59e-03	9.03e-03	2.48e-04
	std	2.41e+02	9.55e+00	1.16e+01	7.97e+00		std	1.80e-01	1.66e-03	8.46e-04	1.35e-03
T ₁₀	median	2.88e+00	1.46e-03 (+)	8.87e-03	1.14e-06 (+)	T ₃₅	median	2.19e+01	5.75e+00 (+)	3.35e+00	4.47e+00 (+)
	mean	2.94e+00	1.41e-03	9.07e-03	2.48e-04		mean	2.17e+01	5.71e+00	3.40e+00	4.86e+00
	std	2.12e-01	1.12e-03	7.48e-04	1.35e-03		std	2.48e+00	1.91e+00	1.98e-01	2.17e+00
T ₁₁	median	1.77e+01	4.22e+00 (+)	3.31e+00	3.34e+00 (≈)	T ₃₆	median	1.50e+04	9.58e+03 (+)	1.47e+04	8.48e+03 (+)
	mean	1.73e+01	5.06e+00	3.32e+00	3.72e+00		mean	1.49e+04	9.55e+03	1.46e+04	8.32e+03
	std	1.54e+00	2.73e+00	1.22e-01	2.37e+00		std	4.70e+02	8.11e+02	5.00e+02	9.58e+02
T ₁₂	median	1.47e+04	9.36e+03 (+)	1.44e+04	7.87e+03 (+)	T ₃₇	median	3.16e+07	4.34e+02 (+)	6.92e+01	3.60e+01 (+)
	mean	1.47e+04	9.30e+03	1.44e+04	7.67e+03		mean	3.12e+07	5.60e+03	6.94e+01	4.20e+01
	std	3.43e+02	7.52e+02	3.31e+02	1.22e+03		std	6.33e+06	9.95e+03	2.49e+00	2.00e+01
T ₁₃	median	1.97e+07	3.49e+02 (+)	6.97e+01	3.57e+01 (+)	T ₃₈	median	1.12e+01	1.50e-12 (+)	4.43e-01	1.73e-03 (+)
	mean	2.06e+07	5.66e+03	6.93e+01	3.64e+01		mean	1.15e+01	2.95e-12	4.40e-01	1.69e-03
	std	5.18e+06	1.06e+04	2.30e+00	3.16e+00		std	1.18e+00	2.01e-12	3.32e-02	3.71e-04
T ₁₄	median	8.15e+00	1.53e-12 (+)	3.89e-01	1.75e-03 (+)	T ₃₉	median	1.33e+03	4.24e+01 (+)	3.27e+02	4.78e+01 (+)
	mean	7.95e+00	2.98e-12	3.87e-01	1.70e-03		mean	1.33e+03	4.27e+01	3.28e+02	4.83e+01
	std	1.42e+00	2.04e-12	2.95e-02	3.86e-04		std	1.59e+02	8.88e+00	1.62e+01	7.91e+00
T ₁₅	median	4.05e+03	4.13e+01 (+)	3.33e+02	4.83e+01 (+)	T ₄₀	median	4.35e+00	9.92e-04 (+)	9.97e-03	1.11e-06 (+)
	mean	4.04e+03	4.15e+01	3.28e+02	4.75e+01		mean	4.33e+00	1.32e-03	8.87e-03	1.24e-06
	std	4.27e+02	8.05e+00	1.85e+01	1.02e+01		std	3.24e-01	1.02e-03	1.02e-03	5.46e-07
T ₁₆	median	3.16e+00	9.01e-04 (+)	9.00e-03	1.19e-06 (+)	T ₄₁	median	1.55e+01	3.40e+00 (+)	3.30e+00	2.68e+00 (≈)
	mean	3.20e+00	1.48e-03	9.09e-03	1.25e-06		mean	1.55e+01	3.99e+00	3.29e+00	3.34e+00
	std	2.52e-01	1.92e-03	9.29e-04	5.21e-07		std	1.63e+00	2.23e+00	9.73e-02	2.05e+00
T ₁₇	median	1.92e+01	4.74e+00 (+)	3.34e+00	3.59e+00 (≈)	T ₄₂	median	1.46e+04	8.68e+03 (+)	1.41e+04	7.41e+03 (+)
	mean	1.95e+01	5.01e+00	3.31e+00	3.26e+00		mean	1.45e+04	8.66e+03	1.42e+04	7.33e+03
	std	2.10e+00	2.24e+00	1.04e-01	1.57e+00		std	4.14e+02	9.42e+02	3.98e+02	1.14e+03
T ₁₈	median	1.49e+04	9.23e+03 (+)	1.48e+04	8.43e+03 (+)	T ₄₃	median	2.63e+07	1.70e+02 (+)	6.91e+01	3.64e+01 (+)
	mean	1.48e+04	9.32e+03	1.47e+04	8.23e+03		mean	2.71e+07	2.74e+03	6.90e+01	5.20e+01
	std	3.95e+02	9.83e+02	4.13e+02	9.51e+02		std	6.08e+06	1.05e+04	1.84e+00	4.48e+01
T ₁₉	median	2.32e+06	1.28e+02 (+)	6.99e+01	3.57e+01 (+)	T ₄₄	median	1.19e+01	1.49e-12 (+)	4.38e-01	1.65e-03 (+)
	mean	2.49e+06	6.33e+03	7.01e+01	9.16e+01		mean	1.15e+01	2.92e-12	4.32e-01	1.69e-03
	std	9.51e+05	2.13e+04	2.75e+00	2.26e+02		std	1.58e+00	2.02e-12	3.71e-02	3.92e-04
T ₂₀	median	1.24e+01	1.51e-12 (+)	4.48e-01	1.69e-03 (+)	T ₄₅	median	2.08e+03	4.18e+01 (+)	3.35e+02	4.48e+01 (+)
	mean	1.23e+01	2.99e-12	4.44e-01	1.70e-03		mean	2.09e+03	4.05e+01	3.35e+02	4.78e+01
	std	1.00e+00	2.04e-12	3.32e-02	3.31e-04		std	2.47e+02	7.66e+00	1.07e+01	9.13e+00
T ₂₁	median	1.79e+03	4.18e+01 (+)	3.32e+02	4.73e+01 (+)	T ₄₆	median	2.51e+00	1.05e-03 (+)	9.46e-03	1.24e-06 (+)
	mean	1.82e+03	4.26e+01	3.29e+02	4.77e+01		mean	2.49e+00	1.46e-03	9.33e-03	1.21e-06
	std	1.98e+02	1.07e+01	1.63e+01	9.38e+00		std	1.99e-01	1.41e-03	8.93e-04	4.83e-07
T ₂₂	median	2.03e+00	1.03e-03 (+)	9.25e-03	1.10e-06 (+)	T ₄₇	median	1.55e+01	4.53e+00 (+)	3.30e+00	2.44e+00 (≈)
	mean	2.01e+00	1.59e-03	9.23e-03	1.27e-06		mean	1.57e+01	4.78e+00	3.36e+00	3.18e+00
	std	1.70e-01	1.54e-03	6.87e-04	5.41e-07		std	2.03e+00	2.01e+00	3.45e-01	2.09e+00
T ₂₃	median	1.40e+01	6.87e+00 (+)	3.52e+00	3.81e+00 (≈)	T ₄₈	median	1.48e+04	9.57e+03 (+)	1.47e+04	7.94e+03
	mean	1.40e+01	6.66e+00	3.50e+00	4.12e+00		mean	1.48e+04	9.57e+03	1.47e+04	7.94e+03
	std	1.55e+00	2.72e+00	1.83e-01	2.13e+00		std	5.25e+02	1.06e+03	4.63e+02	9.96e+02
T ₂₄	median	1.45e+04	9.22e+03 (+)	1.45e+04	7.97e+03 (+)	T ₄₉	median	1.43e+07	4.52e+03 (+)	6.85e+01	3.65e+01 (+)
	mean	1.46e+04	9.19e+03	1.44e+04	7.83e+03		mean	1.43e+07	1.94e+04	6.89e+01	4.65e+01
	std	3.41e+02	8.49e+02	5.39e+02	1.34e+03		std	3.93e+06	2.64e+04	2.44e+00	2.53e+01
T ₂₅	median	1.06e+07	4.01e+02 (+)	7.21e+01	4.16e+01 (≈)	T ₅₀	median	1.15e+01	1.51e-12 (+)	4.45e-01	1.63e-03 (+)
	mean	1.13e+07	8.67e+02	7.31e+01	1.68e+02		mean	1.14e+01	2.97e-12	4.42e-01	1.66e-03
	std	3.47e+06	9.72e+02	4.75e+00	2.21e+02		std	1.19e+00	2.03e-12	3.00e-02	4.23e-04

Table S1.10. The median, mean, and standard deviation of the best fitness values obtained by EDA, MaT-EDA, AMaLGaM, and MaT-AMaLGaM over 30 independent runs on **S10** in WCCI2020 single-objective many-tasking benchmark suite. “+”, “-”, and “≈” indicate that the corresponding result of MaT-EDA (or MaT-AMaLGaM) is better than, similar to, and worse than that of EDA (or AMaLGaM), respectively

Task	Stats.	EDA	MaT-EDA	AMaLGaM	MaT-AMaLGaM	Task	Stats.	EDA	MaT-EDA	AMaLGaM	MaT-AMaLGaM
T ₁	median	1.08e+01	1.56e-12 (+)	4.21e-01	4.86e-10 (+)	T ₂₆	median	1.30e+01	1.51e-12 (+)	4.65e-01	5.49e-10 (+)
	mean	1.08e+01	2.95e-12	4.23e-01	1.86e-08		mean	1.31e+01	4.15e-01	4.63e-01	1.88e-08
	std	1.19e+00	1.95e-12	3.03e-02	6.45e-08		std	9.76e-01	2.27e+00	3.83e-02	6.54e-08
T ₂	median	1.11e+03	4.08e+01 (+)	3.30e+02	4.83e+01 (+)	T ₂₇	median	1.33e+03	4.13e+01 (+)	3.35e+02	4.73e+01 (+)
	mean	1.14e+03	4.13e+01	3.28e+02	5.01e+01		mean	1.32e+03	4.33e+01	3.34e+02	4.81e+01
	std	1.77e+02	8.70e+00	1.05e+01	1.13e+01		std	1.52e+02	7.60e+00	1.03e+01	7.30e+00
T ₃	median	3.05e+00	1.94e-03 (+)	9.41e-03	0.00e+00 (+)	T ₂₈	median	4.12e+00	1.62e-03 (+)	9.17e-03	0.00e+00 (+)
	mean	3.07e+00	2.34e-03	9.39e-03	2.47e-04		mean	4.13e+00	2.07e-03	9.07e-03	1.39e-13
	std	2.82e-01	1.66e-03	7.06e-04	1.35e-03		std	3.15e-01	1.74e-03	9.64e-04	7.46e-13
T ₄	median	2.01e+01	5.62e+00 (+)	3.34e+00	3.28e+00 (≈)	T ₂₉	median	1.78e+01	4.12e+00 (+)	3.36e+00	3.12e+00 (≈)
	mean	1.99e+01	5.87e+00	3.34e+00	3.74e+00		mean	1.82e+01	4.71e+00	3.40e+00	3.06e+00
	std	2.11e+00	2.60e+00	1.14e-01	2.25e+00		std	1.66e+00	2.01e+00	1.79e-01	1.75e+00
T ₅	median	1.49e+04	9.42e+03 (+)	1.47e+04	7.93e+03 (+)	T ₃₀	median	1.47e+04	9.69e+03 (+)	1.46e+04	7.55e+03 (+)
	mean	1.48e+04	9.50e+03	1.47e+04	8.02e+03		mean	1.47e+04	9.38e+03	1.45e+04	7.59e+03
	std	5.30e+02	8.79e+02	4.36e+02	9.62e+02		std	4.68e+02	9.79e+02	4.03e+02	1.10e+03
T ₆	median	1.14e+01	1.55e-12 (+)	4.21e-01	5.28e-10 (+)	T ₃₁	median	1.04e+01	1.53e-12 (+)	4.17e-01	5.44e-10 (+)
	mean	1.14e+01	2.98e-12	4.22e-01	2.50e-08		mean	1.06e+01	2.89e-12	4.20e-01	2.41e-08
	std	8.26e-01	2.00e-12	3.00e-02	8.43e-08		std	1.21e+00	1.90e-12	2.80e-02	8.04e-08
T ₇	median	1.39e+03	4.08e+01 (+)	3.34e+02	4.68e+01 (+)	T ₃₂	median	1.60e+03	4.41e+01 (+)	3.35e+02	4.78e+01 (+)
	mean	1.41e+03	4.13e+01	3.29e+02	4.64e+01		mean	1.58e+03	4.41e+01	3.33e+02	4.80e+01
	std	1.60e+02	8.32e+00	1.59e+01	8.91e+00		std	1.90e+02	6.24e+00	9.97e+00	1.18e+01
T ₈	median	2.31e+00	1.65e-03 (+)	8.93e-03	0.00e+00 (+)	T ₃₃	median	2.97e+00	2.54e-03 (+)	9.12e-03	0.00e+00 (+)
	mean	2.28e+00	2.45e-03	8.98e-03	3.10e-15		mean	2.97e+00	2.66e-03	9.23e-03	2.40e-15
	std	2.12e-01	3.03e-03	8.05e-04	1.35e-14		std	2.49e-01	1.85e-03	7.00e-04	1.02e-14
T ₉	median	1.65e+01	4.00e+00 (+)	3.35e+00	3.36e+00 (≈)	T ₃₄	median	1.51e+01	4.79e+00 (+)	3.38e+00	4.34e+00 (≈)
	mean	1.66e+01	4.22e+00	3.44e+00	3.61e+00		mean	1.52e+01	4.90e+00	3.44e+00	4.15e+00
	std	1.66e+00	1.77e+00	3.67e-01	2.12e+00		std	2.30e+00	2.15e+00	2.69e-01	2.13e+00
T ₁₀	median	1.50e+04	9.96e+03 (+)	1.50e+04	8.94e+03 (+)	T ₃₅	median	1.47e+04	9.46e+03 (+)	1.47e+04	8.27e+03 (+)
	mean	1.50e+04	1.00e+04	1.50e+04	8.82e+03		mean	1.46e+04	9.30e+03	1.46e+04	8.06e+03
	std	5.19e+02	7.43e+02	3.54e+02	1.12e+03		std	5.89e+02	7.31e+02	4.45e+02	8.72e+02
T ₁₁	median	1.08e+01	1.58e-12 (+)	4.18e-01	5.42e-10 (+)	T ₃₆	median	1.17e+01	1.56e-12 (+)	4.38e-01	5.36e-10 (+)
	mean	1.08e+01	2.87e-12	4.13e-01	1.82e-08		mean	1.14e+01	2.94e-12	4.35e-01	1.95e-08
	std	1.20e+00	1.83e-12	2.52e-02	6.17e-08		std	1.17e+00	1.94e-12	4.29e-02	6.90e-08
T ₁₂	median	1.34e+03	4.03e+01 (+)	3.33e+02	4.63e+01 (+)	T ₃₇	median	7.95e+02	4.53e+01 (+)	3.28e+02	4.78e+01 (+)
	mean	1.34e+03	4.20e+01	3.32e+02	4.74e+01		mean	8.06e+02	4.56e+01	3.27e+02	4.79e+01
	std	1.84e+02	7.86e+00	9.42e+00	8.67e+00		std	1.04e+02	8.37e+00	1.39e+01	9.37e+00
T ₁₃	median	3.08e+00	1.86e-03 (+)	8.79e-03	0.00e+00 (+)	T ₃₈	median	3.01e+00	1.62e-03 (+)	9.62e-03	0.00e+00 (+)
	mean	3.06e+00	2.28e-03	8.73e-03	6.47e-15		mean	3.02e+00	2.58e-03	9.49e-03	5.17e-15
	std	2.93e-01	1.85e-03	7.96e-04	2.56e-14		std	2.48e-01	2.28e-03	8.46e-04	2.01e-14
T ₁₄	median	1.81e+01	4.50e+00 (+)	3.48e+00	2.97e+00 (≈)	T ₃₉	median	1.96e+01	4.46e+00 (+)	3.29e+00	3.47e+00 (≈)
	mean	1.80e+01	4.85e+00	3.54e+00	3.57e+00		mean	1.95e+01	4.60e+00	3.30e+00	3.52e+00
	std	1.92e+00	1.71e+00	2.31e-01	2.20e+00		std	1.93e+00	2.13e+00	2.33e-01	1.73e+00
T ₁₅	median	1.48e+04	8.91e+03 (+)	1.46e+04	7.57e+03 (+)	T ₄₀	median	1.49e+04	9.54e+03 (+)	1.49e+04	8.36e+03 (+)
	mean	1.48e+04	8.96e+03	1.46e+04	7.51e+03		mean	1.48e+04	9.62e+03	1.48e+04	8.31e+03
	std	3.99e+02	6.68e+02	4.96e+02	1.25e+03		std	4.59e+02	9.61e+02	4.19e+02	1.04e+03
T ₁₆	median	1.41e+01	1.55e-12 (+)	4.72e-01	5.43e-10 (+)	T ₄₁	median	1.23e+01	1.54e-12 (+)	4.50e-01	5.23e-10 (+)
	mean	1.39e+01	1.13e-01	4.78e-01	2.50e-08		mean	1.22e+01	2.96e-12	4.46e-01	2.61e-08
	std	9.71e-01	6.21e-01	3.42e-02	8.40e-08		std	8.82e-01	1.98e-12	3.38e-02	8.74e-08
T ₁₇	median	1.65e+03	4.33e+01 (+)	3.35e+02	4.78e+01 (+)	T ₄₂	median	2.93e+03	4.09e+01 (+)	3.30e+02	4.68e+01 (+)
	mean	1.66e+03	4.31e+01	3.32e+02	4.86e+01		mean	2.94e+03	4.08e+01	3.26e+02	4.57e+01
	std	1.69e+02	1.05e+01	1.46e+01	9.38e+00		std	2.47e+02	7.24e+00	1.45e+01	8.26e+00
T ₁₈	median	2.58e+00	2.13e-03 (+)	9.32e-03	0.00e+00 (+)	T ₄₃	median	2.35e+00	2.13e-03 (+)	9.23e-03	0.00e+00 (+)
	mean	2.55e+00	2.57e-03	9.11e-03	5.89e-15		mean	2.36e+00	2.93e-03	9.17e-03	2.49e-15
	std	2.19e-01	1.59e-03	1.31e-03	2.32e-14		std	2.59e-01	2.48e-03	7.61e-04	1.06e-14
T ₁₉	median	2.29e+01	3.82e+00 (+)	3.27e+00	3.17e+00 (≈)	T ₄₄	median	1.94e+01	5.13e+00 (+)	3.38e+00	3.54e+00 (≈)
	mean	2.33e+01	3.74e+00	3.30e+00	3.49e+00		mean	1.94e+01	5.39e+00	3.35e+00	4.20e+00
	std	2.45e+00	1.97e+00	1.03e-01	1.84e+00		std	2.06e+00	2.29e+00	1.84e-01	2.09e+00
T ₂₀	median	1.50e+04	8.95e+03 (+)	1.48e+04	8.25e+03 (+)	T ₄₅	median	1.49e+04	9.30e+03 (+)	1.48e+04	8.35e+03 (+)
	mean	1.49e+04	9.11e+03	1.48e+04	8.13e+03		mean	1.50e+04	9.46e+03	1.46e+04	8.45e+03
	std	4.27e+02	8.41e+02	4.03e+02	1.02e+03		std	3.70e+02	8.16e+02	5.74e+02	1.28e+03
T ₂₁	median	9.48e+00	1.56e-12 (+)	4.06e-01	5.42e-10 (+)	T ₄₆	median	1.25e+01	1.55e-12 (+)	4.47e-01	5.43e-10 (+)
	mean	9.34e+00	3.01e-12	4.08e-01	2.36e-08		mean	1.25e+01	2.94e-12	4.43e-01	1.94e-08
	std	1.27e+00	1.99e-12	3.78e-02	7.86e-08		std	1.09e+00	1.92e-12	3.13e-02	6.65e-08
T ₂₂	median	1.77e+03	4.53e+01 (+)	3.34e+02	4.33e+01 (+)	T ₄₇	median	1.26e+03	4.18e+01 (+)	3.29e+02	4.53e+01 (+)
	mean	1.79e+03	4.50e+01	3.33e+02	4.38e+01		mean	1.26e+03	4.11e+01	3.30e+02	4.78e+01
	std	2.15e+02	1.05e+01	1.17e+01	7.58e+00		std	1.57e+02	6.50e+00	1.22e+01	1.15e+01
T ₂₃	median	2.71e+00	1.75e-03 (+)	9.17e-03	0.00e+00 (+)	T ₄₈	median	1.60e+00	2.33e-03 (+)	8.86e-03	0.00e+00 (+)
	mean	2.72e+00	2.65e-03	9.16e-03	3.21e-15		mean	1.59e+00	3.16e-03	8.87e-03	2.47e-04
	std	2.95e-01	2.39e-03	9.38e-04	1.33e-14		std	1.17e-01	2.93e-03	8.33e-04	1.35e-03
T ₂₄	median	1.79e+01	4.71e+00 (+)	3.32e+00	3.03e+00 (≈)	T ₄₉	median	1.81e+01	5.30e+00 (+)	3.54e+00	3.65e+00 (≈)
	mean	1.76e+01	4.61e+00	3.37e+00	3.15e+00		mean	1.75e+01	5.86e+00	3.69e+00	4.14e+00
	std	2.79e+00	1.88e+00	2.46e-01	1.97e+00		std	1.90e+00	2.07e+00	6.50e-01	1.97e+00
T ₂₅	median	1.44e+04	9.03e+03 (+)	1.42e+04	8.02e+03 (+)	T ₅₀	median	1.46e+04	8.54e+03 (+)	1.44e+04	8.09e+03 (+)
	mean	1.44e+04	9.14e+03	1.42e+04	8.03e+03		mean	1.46e+04	8.56e+03	1.43e+04	8.13e+03
	std	4.54e+02	1.04e+03	4.27e+02	8.53e+02		std	3.70e+02	8.57e+02	5.04e+02	9.82e+02