

Monte Carlo — output may be incorrect with a certain (typically small) probability.

The term was first introduced in 1947 by Nicholas Metropolis.

(Think: Manhattan Project.)

Las Vegas — always produces the correct result or it informs about the failure. However, the runtime of a Las Vegas algorithm differs depending on the input.

Atlantic City — probabilistic polynomial time algorithm that answers correctly at least 75% of the time.

“Monte Carlo algorithms are always fast, but only probably correct. On the other hand, Las Vegas algorithms are always correct, but only probably fast. The Atlantic City algorithms which are bounded probabilistic polynomial time algorithms are probably correct and probably fast.”