```cpp
//==================================================================================
class PerformanceMeasurement
{
public:
    //==================================================================================
    /** Creates a PerformanceMeasurement object.

        @param counterName      the name used when printing out the statistics
        @param runsPerPrintout  the number of start/stop iterations before calling
                                printStatistics()
    */
    PerformanceMeasurement (const std::string& counterName,
                            int runsPerPrintout = 100,
                            bool printOnDestruction = true);

    /** Destructor. */
    ~PerformanceMeasurement();

    //==================================================================================
    /** Starts timing.
        @see stop
    */
    void start() noexcept;

    /** Stops timing and prints out the results.

        The number of iterations before doing a printout of the
        results is set in the constructor.

        @see start
    */
    bool stop();

    /** Dumps the current metrics to std::cout. */
    void printStatistics();


    /** Returns a copy of the current stats. */
    Statistics getStatistics() const;
```

```cpp
/** Holds the current statistics. */
struct Statistics
{
    Statistics() noexcept = default;

    void clear() noexcept;
    double getVarianceSeconds() const;
    double getVarianceCycles() const;
    std::string toString() const;

    void addResult (double secondsElapsed, uint64_t cyclesElapsed);

    std::string name;

    double meanSeconds        = 0.0;
    double m2Seconds          = 0.0;
    double maximumSeconds     = 0.0;
    double minimumSeconds     = 0.0;
    double totalSeconds       = 0.0;

    double meanCycles         = 0.0;
    double m2Cycles           = 0.0;
    uint64_t maximumCycles    = 0;
    uint64_t minimumCycles    = 0;
    uint64_t totalCycles      = 0;

    int64_t numRuns = 0;
};
```

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```

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