The algebraic combinatorics of rational conformal field theory

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A fundamental datum associated to a rational conformal field theory is a representation of the modular group SL(2,Z), and its corresponding fusion ring. Two elementary but fundamental invariants of the theory are a certain element (the "modular invariant") in the commutant of this SL(2,Z) representation, and a certain representation of the fusion ring (the "fusion graph"). In my talk I'll sketch the basic algebra and number theory of this data, and emphasize how it generalizes certain classical structures familiar to most of the audience.