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Beginning with the early work of Morse and Hedlund, one of the classical approaches to studying geodesics on negatively curved Riemann surfaces has been via symbolic dynamics. This approach gives a direct application of "Thermodynamic Formalism" (e.g., Pressure, Gibbs measures and Ruelle Operators) to geometric problems. In particular, we shall describe how this method can be used to analyze the determinant of the laplacian for families of non-compact surfaces. We will consider, in particular, the example of once punctured tori and their relation with conjectures of Sarnak. (Received February 18, 2013)