Black hole thermodynamics was originally developed about 40 years ago in the wake of deepening understanding of the black hole phenomenon. Unlike most topics in physics, whose shelf life is much shorter, this field has remained lively and relevant by ramifying into a number of active fields of research. I will review the necessary background on black holes, and then explain why black hole physics required a thermodynamics, how the latter was constructed, and how its predictions were confirmed—at least at the theoretical level. I will then discuss two or three of the ramifications of black hole thermodynamics which are unfinished areas of research today.

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