The Existence of a Knight's Tour on the Surface of Rectangular Boxes

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A knight's tour is a sequence of knight's moves such that each square on the board is visited exactly once. In this talk, we will discuss a proof that a closed knight's tour exists on the surface of a rectangular box of any size. Our general algorithm is to concatenate the top and bottom faces of a box with its side faces. When general criteria are not satisfied, especially when the dimensions of the rectangular box are small, we devise some special techniques to cover these cases.