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Google's PageRank: A present-day application of mathematics in the classroom.

Kaiser, G. (ed.) et al., Trends in teaching and learning of mathematical modelling. Proceedings of the 14th international conference on the teaching of mathematical modelling and applications, ICTMA, Hamburg, Germany, July 27–31, 2009. Berlin: Springer (ISBN 978-94-007-0909-6/hbk; 978-94-007-0910-2/ebook).

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Summary: Very many people use internet search engines like Google nearly every day, in most cases more than once a day. Here the following question arises: How does Google come to a ranked list, how does Google know which site is an important one and should be placed at the top of the list? It turns out that this question can be dealt with at a very elementary level. Here we show a possible way.

Classification: M50 R50

Keywords: information retrieval; ranking; internet; mathematical applications; Markov chains; transition matrices

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