Example Abstract for the Workshop on Bioinformatics and Computational Biology

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We present a sample file for the use of WBCB LaTeX macro package. This paper also serves as an example of WBCB's stylistic preferences for the formatting.

Let $S = [s_{ij}]$ $(1 \leq i, j \leq n)$ be a $(0, 1, -1)$-matrix of order n. Then S is a *sign-nonsingular matrix* (SNS-matrix) provided that each real matrix with the same sign pattern as S is nonsingular. There has been considerable recent interest in constructing and characterizing SNS-matrices [1], [3]. There has also been interest in strong forms of sign-nonsingularity [2]. In this paper we give a new generalization of SNS-matrices.

Theorem 1. *The maximum number of nonzero entries in a* SNS*-matrix S of order n equals*

$$\frac{n^2 + 3n - 2}{2}$$

with equality if and only if there exist permutation matrices such that $P|S|Q = T_n$ where

$$T_n = \begin{bmatrix} 1 & 1 & \cdots & 1 & 1 & 1 \\ 1 & 1 & \cdots & 1 & 1 & 1 \\ 0 & 1 & \cdots & 1 & 1 & 1 \\ \vdots & \vdots & \ddots & \vdots & \vdots & \vdots \\ 0 & 0 & \cdots & 1 & 1 & 1 \\ 0 & 0 & \cdots & 0 & 1 & 1 \end{bmatrix}. \qquad (1)$$

Experiments. In the first set of experiments, we allowed each method to run for 40 GMRESM iterations, starting with zero as the initial approximate solution, after which the limit of residual norm reduction had been reached. In Fig. 1, the top curve was produced by method FD1. The second curve from the top is actually a superposition of the curves produced by methods EHA2 and FD2; the two curves are visually indistinguishable. Similarly, the third curve from the top is a superposition of the curves produced by methods EHA4 and FD4, and the fourth curve from the top, which lies barely above the bottom curve, is a superposition of the curves produced by methods EHA6 and FD6. The bottom curve was produced by method A.

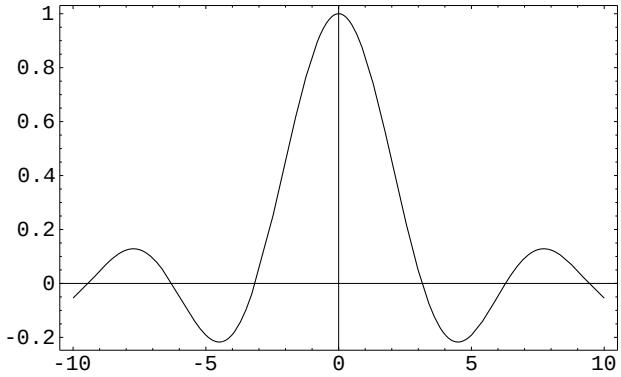

Figure 1: Graph of the function $\sin(x)/x$.

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References

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