Preface

Many constraint satisfaction problems have some symmetry: any assignment can be transformed into a set of symmetrically equivalent assignments. The symmetries preserve solutions: if any assignment in a symmetry equivalent class is consistent with the constraints, they all are. For instance, in many CSPs some of the variables refer to entities which are indistinguishable, and the values assigned to these variables can be interchanged in any solution. Where symmetry exists in a CSP, dealing with it effectively is often critical to the success of solving the CSP. Without doing so, search often thrashes, revisiting symmetrically equivalent states over and over again.

SymCon'03 is the third workshop in the series, following the successful earlier workshops at CP 2001 in Paphos, Cyprus and at CP 2002 in Ithaca, NY, USA. The papers in these proceedings present research into many aspects of symmetry in constraint satisfaction problems, including symmetry detection; exploitation of symmetry to speed up search; avoidance of symmetry; use of mathematical techniques such as group theory for dealing with symmetry in CSPs; and applications of constraint programming in which symmetry is significant. The number of papers shows that symmetry is an active area of research in constraint programming, and it is hoped that they will stimulate further research. The proceedings can also be found online at http://scom.hud.ac.uk/scombms/SymCon03/.

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