Application of formal languages in the polynomial transformations of instances between NP-complete problems

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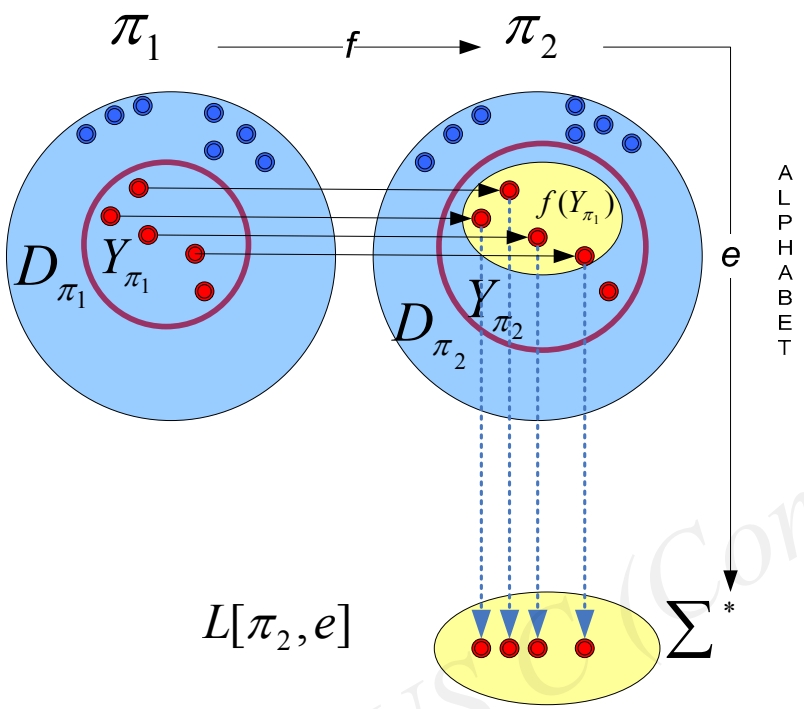
- To define formal languages to express instances of NP-complete problems
- To use formal languages theory for polynomial transformations
- A methodology of transformation of instances between NP-complete problems, the differences between the Johnson methodology and our methodology, and examples of the polynomial transformations
- The new idea of using formal language theory for polynomial transformations is more practical and faster to apply to real problems than the theoretical theory of polynomial transformations (it is a mechanism for determining if a problem belongs to a class of problems, and in addition, for determining if a problem is more complex than another)

Our methodology versus methodology of Garey & Johnson



SYMBOLS:

π	Decision problem
Y	Instances - yes
D	Instances - no
L	Language
e	Codification scheme
f	Transformation function
BNF	Backus Naur-Form