system of distinct representatives

Canonical name	SystemOfDistinctRepresentatives
Date of creation	2013-03-22 12:35:11
Last modified on	2013-03-22 12:35:11
Owner	vampyr (22)
Last modified by	vampyr (22)
Numerical id	4
Author	vampyr (22)
Entry type	Definition
Classification	msc 05D15
Synonym	SDR

Let $S = \{S_1, S_2, \ldots S_n\}$ be a finite collection of finite sets. A *system of distinct representatives*, or *SDR*, of S is a set

$$x_1 \in S_1, x_2 \in S_2, \ldots x_n \in S_n$$

such that

$$x_i \neq x_j \text{ whenever } i \neq j$$

(i.e., each choice must be unique).