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SHPERNER'S THEOREME

The aim of the work was to study the methods of proving the generalized Shperner Theorem, its multiset analogue, to prove partial cases of the theorem, to study the behavior of samples from the multiset.

In the course of this work the analysis of the proofs of the simple case of the Sperner Theorem was carried out, the approaches to the proof of the complicated case were proposed, the partial cases of multisets were considered, the theorem for these partial cases was proved, the generalized theorem was proved for some partial cases.

C_n^i (the number of i - element multisets of n - element multiset), developed a small program to graphically show this fact, proved the bimonotonicity of this function.

Also, in the course of this work, one of the possible applications of this theorem was considered, namely, the «Procedure for secret distribution», but the applied potential of the theorem does not end there.

Sperner's theorem in discrete mathematics describes the most possible families of Kintsev multiplies, which cannot take revenge on the other multiples in the family.

There is one of the central results in the extreme theory of many. The result of the names in honor of Emanuel Sperner, which was published in 1928 in Russian. The whole result is sometimes called Sperner's lemma, ale the name "Sperner's lemma" can also be referred to as an unsubstantiated result, and the very combinatorial analogue of Brower's theorems about a non-destructive point. For the interdependence of two results, the result for the size of the Sperner family is now more likely to be Sperner's theorem.

The number of Sperner's families on many n elements is the number of Dedekind, the first number of which:
2, 3, 6, 20, 168, 7581, 7828354, 2414682040998, 56130437228687557907788.

If you want to see accurate asymptotic estimates for larger values of n, it's unavoidable, but obviously the exact formula is that there can be many numbers of cychoristan. The choice of the family of Sperner on the set of n elements in the possible set of organizations at the view of the different rosette lattice, in which the connection of the two families of Sperner is recognized as the combination of the two set of views.

The relevance of robotics begins with the presentation of Sperner's Theorems for multi-multimedia display, so that theorems for multiple input of elements are used. By the method of bringing the theorems to the end of the day to the end of the day to bring the theorems, you can projection of these methods to bring the theorem to the table, the development of the method of bringing the theorems to the multi-multiplier to the end,

explorations - Sperner's theorem, which is used on multipliers.

Exploration method - mathematical apparatus of discrete mathematics, combinatorics, theory of many, line algebra, theory of graphs. The scientific novelty of the obtained results - the way of bringing the theorems to the multi-multiplier display is proponated.

From Hall's theorem (also like the theorem about the wall) is inaccurately valid, but whether a regular step graph is admissible without steam. The theorem is to be used on a two part graph with an endless number of peaks, for the mind, all peaks may be at the end of the day. The application of an unfinished two-part graph, for which the theorem is not valid - a straight cylindrical glass, which will be used in this way: the first part of the set of vertices is the points of the upper stub part of the bottle and the center of the lower base; the other part - the point of the lower part of the lower base; the edges of the graph are all points of the lower base and vertical lines of the surface. The basis of the Hall's theorem was used to proof the Shperner's theoreme multiset variant. The binomial coefficients also were used to proof Shperner's theoreme multiset variant.

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