EDITORIAL

Theoretical Talk About Topology

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Michael Th. Rassias. Theoritical talk about topology. J Pure Applied Mathematics. 2021; 5(1):1-1.

Mathematicians associate the emergence of topology as a distinct field of mathematics with the 1895 publication of Analysis Situs by the Frenchman Henri Poincare, although many topological ideas had foundtheir way into mathematics during the previous century and a half.

The definition of Topology is it's a relatively new branch of mathematics as most of the research in Topology has been processing since 1900s and is used in fields of string theory for describing the space-time structure of universe.

We now consider a more general case of spaces without metrics, where we can still make sense of the notions of open and closed sets. These spaces are called topological spaces.

In topology a continuous function is often called a map. There are 2 different ideas we can use on the idea of continuous functions.

Homeomorphism:

A homeomorphism is a function $f: X \to Y$ between two topological spaces X and Y that is a continuous bijection, and has a continuous inverse function f^{-1}.

Retraction:

A retraction is homotopic equivalence between a space X and a subspace

$Y (Y \subseteq X)$.

When dealing with retractions we assume we are using the Euclid's Topology.

Some of the subfields of topology are as follows:

Generalised topology normally considers local properties of spaces, and is closely related to analysis.

It generalizes the theoretical continuity to brief topological spaces, inwhich limits of sequences can be existing.

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Combinatorial topology assumes the global properties of spaces, foundfrom a network of vertices, edges, and faces.

This is the ancient branch of topology, and reverts back to Euler.

Algebraic topology swaps a topological problem into an algebraic problemthat is faithfully easier to get solved.
Algebraic topology sometimes uses the combinatorial structure of a spaceto calculate the various groups associated to that space.

Differentiation topology is useful for learning properties of vector fields,such as a magnetic or electric fields, etc.

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Received: January 25, 2021, Accepted: January 27, 2021, Published: January 29, 2021