



جمهورية العراق  
وزارة التعليم العالي والبحث العلمي  
الجامعة المستنصرية  
كلية التربية-قسم الرياضيات

## تعميمات دوال وفضاءات باستخدام المجموعات المفتوحة من النمط - b

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## Abstract

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The first goal of our work is to introduce new types of mappings on topological space, namely b-homeomorphisms, gb-homeomorphisms and gbc-homeomorphisms. We discuss the relationships between these types of homeomorphisms and their relations with homeomorphisms via proofs and counter examples. Also, we create a new type of compactness, namely GBO-compactness and study its relations with compactness and b-compactness. Many properties of this notion are given.

The second goal is to introduce important characterizations of known classes of topological spaces such as  $T_{gs}$ -space, sg-submaximal-space and extremally disconnected-space by using b-closed, gb-closed and other well-known kinds of generalized closed sets. On the other hand, we introduce a new type of separation axioms weaker than  $T_{1/\gamma}$ , namely b- $T_{1/\gamma}$  and study its relations with b-separation axioms. Also, we give several characterizations about this type of separation axioms.