Free algebras in varieties of BL-algebras generated by a BLn-chain

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I will give a description of free algebras in subvarieties of BL-algebras generated by one BLn-chain which is the ordinal sum of a finite MV-chain Ln and a generalized BL-chain B. These free algebras are described in terms of weak Boolean product of ordinal sums of subalgebras of Ln and free algebras in the varieties of basic hoops generated by B. The Boolean products are taken over the Stone spaces of the Boolean subalgebras of idempotents element of the free algebras in the variety of MV-algebras generated by Ln.