

BRACES AND SKEW-BRACES VIA GAP: YANGBAXTER AND LOCALNR PACKAGES

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Using the YangBaxter package [1], we provide the classifications of braces (up to order 32) and skew-braces (up to order 16) according to the additive or multiplicative groups which are Miller–Moreno p -groups. Moreover, we give some information concerning nearring braces from the LocalNR package.

Note that braces of size 64 are not implemented in the AllBraces library. From the LocalNR package [2] and [3] we can extract local nearrings of order 128 via where the arguments k, l, m, n are from IdGroup of the additive group and the multiplicative group, respectively, w is the position in the list. As an example, we give the nearring $R := LocalNearRing(128, 160, 64, 183, 2)$ with $|R : L| = 2$. Obviously that $R^* = 1 + L$, and so we can extract the nearring ideal $I = (L, +, \cdot)$, the multiplicative and additive groups of a nearring brace [4] $B = (L, 1 + L)$ of order 64.

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2. Raievska I., Raievska M., Sysak Y. LocalNR, Package of local nearrings, Version 1.0.4 (2024) (GAP package), <https://gap-packages.github.io/LocalNR/>
3. Raievska I., Raievska M., Sysak Y. (2022) DatabaseEndom128 (v0.2) [Data set]. Zenodo. <https://zenodo.org/records/7225377>
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БРЕЙСИ ТА КОСІ БРЕЙСИ І GAP: ПАКЕТИ YANGBAXTER ТА LOCALNR

Використовуючи пакет YangBaxter, ми подали класифікацію брейсів (до 32 порядку) і косих брейсів (до 16 порядку) відповідно до адитивних або мультиплікативних груп, які є p -групами Міллера–Морено. Крім того, ми наводимо деяку інформацію щодо майже-кільцевих брейсів з пакету LocalNR.