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[Main page](#)
[Contents](#)
[Featured content](#)
[Current events](#)
[Random article](#)
[Donate to Wikipedia](#)
[Wikipedia store](#)

Interaction

[Help](#)
[About Wikipedia](#)
[Community portal](#)
[Recent changes](#)
[Contact page](#)


Tools

[What links here](#)
[Related changes](#)
[Upload file](#)
[Special pages](#)
[Permanent link](#)
[Page information](#)
[Wikidata item](#)
[Cite this page](#)

Print/export

[Create a book](#)
[Download as PDF](#)
[Printable version](#)


Languages

 [Add links](#)

[Create account](#) [Log in](#)

Article [Talk](#)

[Read](#) [Edit](#) [View history](#)



Linde–Buzo–Gray algorithm

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The **Linde–Buzo–Gray algorithm** (introduced by Yoseph Linde, Andrés Buzo and [Robert M. Gray](#) in 1980) is a [vector quantization](#) algorithm to derive a good [codebook](#).

It is similar to the [k-means](#) method in [data clustering](#).

The algorithm [\[edit\]](#)

At each iteration, each vector is split into two new vectors.

- A initial state: centroid of the training sequence;
- B initial estimation #1: code book of size 2;
- C final estimation after [LGA](#): Optimal code book with 2 vectors;
- D initial estimation #2: code book of size 4;
- E final estimation after [LGA](#): Optimal code book with 4 vectors;

References [\[edit\]](#)

- The original paper describing the algorithm, as an extension to [Lloyd's algorithm](#):
 - Linde, Y.; Buzo, A.; [Gray, R.](#) (1980). "An Algorithm for Vector Quantizer Design" [↗](#). *IEEE Transactions on Communications* **28**: 84. doi:10.1109/TCOM.1980.1094577 [↗](#).

External links [\[edit\]](#)

- <http://www.data-compression.com/vq.html#lbg> [↗](#)



*This [algorithms](#) or [data structures](#)-related article is a *stub*. You can help Wikipedia by [expanding it](#).*

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| [Algorithms and data structures stubs](#) | [Computer science stubs](#)

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