

Boolean Functions

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The following table shows how many unique boolean functions the program was able to compute, as well as how many of them were linearly separable, for each value of n . Since the number of linearly separable functions change every run, the result of an arbitrarily chosen run is presented.

n	number of boolean functions	linearly separable
2	16	14
3	256	104
4	9297	270
5	10000	0

Tabell 1: For each number n , the number of unique boolean functions and the number of linearly separable boolean functions are listed. The maximum number of unique boolean functions possible is limited to 10000 since that is the number of trials being run.

Due to the large number of boolean functions relative to the number of linearly separable ones, for $n = 5$ it is unlikely to hit a linearly separable one within the 10000 trials. Similarly for $n = 4$, while the ratio makes it more likely for separable functions to be found. Meanwhile for $n = 2, 3$, all of the linearly separable functions were counted. Furthermore the amount of boolean functions for $n = 4$ varies from run to run, which indicates that the code is unable to exactly pinpoint the quantity of boolean functions.