

class - B.Tech (ECE) 3<sup>rd</sup> yr  
subject - ADDV.  
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Date - 30/4/2020.

## Topic - BDD

In Computer Science, a binary decision diagram (BDD) or branching program is a data structure that is used to represent a Boolean function. On a more abstract level, BDD can be considered as a compressed representation of sets or relations. Unlike other compressed representations, operations are performed directly on the compressed representations. i.e. without decompression.

Other data structure used to represent Boolean functions include negation normal form (NNF), Zhegalkin polynomial, propositional directed acyclic graphs

In another words, the term BDD almost always refers to Reduced ordered Binary Decision Diagram (ROBDD in the literature, used when the ordering and reduction aspects needs to be emphasized).

## Class Work Forecast

Applications - (1) BDD's are

extensively used in CAD software to synthesize circuits (logic synthesis) and in formal verifications. There are several lesser known applications of BDD, including fault tree analysis, Bayesian reasoning, product configuration.

### Logic operation of BDD

\* Conjunction

\* disjunction

\* negation