

Overview of High Level Synthesis tools

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High Level Synthesis takes an abstract behavioural or algorithmic description of a digital system and creates a register transfer level structure that realises the described behaviour. Various methodologies have been developed to perform such synthesis tasks. Much research has led to the development of electronic design automation tools capable of HLS that are now being accepted by industry. This paper presents the current leading tools and the different concepts of HLS used in each.

It makes a comparison between the different approaches and highlights their advantages and limitations. We also present examples of high level synthesis using these techniques.

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