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Graph-based representation of design properties in creating building floorplans

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- Hierarchical graph-based data structures for representing design solutions together with graph grammars generating them are defined.
- A framework for supporting the design process by defining local and global design requirements over graph-based representations of solutions is proposed.
- The proposed interpretations transform logic formulas expressing design properties into equivalent local and global graph requirements.
- Correctness of design solutions is checked by testing the satisfiability of graph requirements by representations of designs.
- The approach is illustrated on examples of designing building layouts.

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