

Storing Knf Equations

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This document contains information, such as magic bytes and grammars, about how SAT equations will be stored in this program.

1 Human Readable SAT .hsat

Magic Bytes The file starts with the bytes HSAT

Grammar Contains a general unformatted equation.

```
S → SAT( EQ )  
EQ → BINOP( EQ, EQ ) | NOT( EQ )  
EQ → NUM | T | F  
BINOP → AND | OR | XOR | NOR
```

2 Human Readable CNF-SAT .hcnf

Magic Bytes The file starts with the bytes HCNF

Grammar Contains a general unformatted equation.

TODO

3 Compressed CNF-SAT .cnf

Magic Bytes The file starts with the bytes CNF

Dimension Bytes The following two bytes specify the size of disjunctions and variable storage.

The first magic byte specifies the size of variables in bytes. (1 byte stores up to 127 different variables, 2 bytes up to 32,767 different variables.)

The following magic byte specifies the size of a disjunction magic bytes. (1 byte allows up to 255 variables per disjunction. 2 bytes up to 65,536 different variables per disjunction)

...Iteration The rest of the document are iterations over disjunctions.

Disjunction Size Specifies how many variables will follow. Size of this magic byte is specified in the header.

...Variables Byte String of Variables, every variables size is specified in the headers. The first bit specifies if the variable is negated.