

The file "SymDes1296" contains the list "D1296" which is a record of all constructed primitive symmetric designs with 1296 points. There are two such designs, so the number of entries in the list is 2: D1296[1] and D1296[2]. The point set of both designs is $\{1, 2, 3, \dots, 1296\}$.

The abbreviation "**rec**" stands at the beginning of each list element. It separates different elements of the list.

The record of the design D1296[i], $i = 1, 2$ has the following two important components:

1. *Aut*D1296[i] generators' permutation representation;
2. set B of all blocks of D1296[i].

Besides, the record gives some other information on the design. Because of the transitivity, any block $B \in B$ is a base block of D1296[i] and the other blocks can be obtained by the action of *Aut*D1296[i] on B . *Aut*D1296[i], $i = 1, 2$ is a primitive group of product action type.

An example of a simple analysis of a design performed in GAP by using our record files can be found in "info" file of the folder "PrimitiveSD_prime_power".

Should our files be used for more detailed analysis, "GRAPE" and "DESIGN" packages have to be installed under GAP. These packages are loaded within GAP by calling the statement:

```
gap> LoadPackage("grape");
true
gap> LoadPackage("design");
true
```

For more information the reader is pointed to:

L.H. Soicher, The DESIGN package for GAP, Version 1.3, 2006,

http://designtheory.org/software/gap_design/

L.H. Soicher, The GRAPE package for GAP, Version 4.3, 2006,

<http://www.maths.qmul.ac.uk/~leonard/grape/>

The readers not acquainted with GAP can use SymDes1296 file as a text file with information on designs' full automorphism groups permutation representation and basic blocks.