

Problem of the Week

Problem E

Symbolic Sequence

A sequence is formed using the following symbols: a club ♣, a diamond ♦, a heart ♥, a spade ♠, and a triangle ▲. Symbols can be repeated and are placed in the sequence according to the following rules:

- the sequence contains a total of 12 symbols;
- the sequence contains exactly 3 triangles located in positions 3, 6 and 12;
- a club must be followed by a diamond or a heart;
- a diamond must be followed by a heart or a spade;
- a heart must be followed by a spade or a triangle;
- a spade must be followed by a triangle or a club; and
- a triangle must be followed by a club or a diamond.

The following is an example of a valid sequence.



How many different valid sequences are there?

