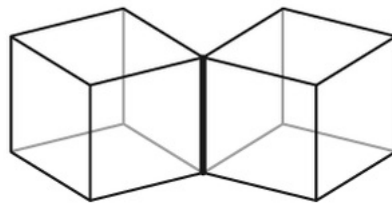


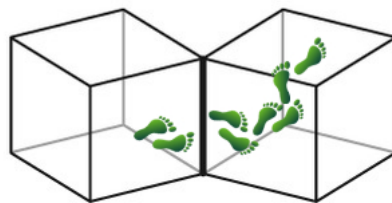


Problem 1. «Cubes and secrets»

Alice is a beginner cryptographer. She was very impressed by the Scytale cipher, so she decided to invent her own simple cipher with the similar idea. Alice took two cubes with empty sides and joined them by an edge. Then she wrote 12 letters of her secret message on empty sides of the cubes (one letter for one side). She did it in such a way that one can read the message just walking from side to side through edges. On every side it is possible to be only once.



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She realized that the information about two joined edges and about the path on cubes form her secret key of encryption. At the same time letters on cubes form the resulting ciphertext. Could you read the secret message of Alice without the key? It is known also that the secret message is a meaningful text. Her cubes are

