



Problem 2. «The machine DH-d»

Let G be a cyclic group of a large prime order q and g be a generator of G . Tom designed the machine DH-d that on input (g, g^x) outputs g^{x^d} . Here g^x is an arbitrary element of G and d is a small fixed positive integer.

Use the machine DH-d to solve the Diffie – Hellman problem, that is, find g^{xy} from (g, g^x, g^y) . Suggest a solution with the minimal requests to the machine.