This is incomputable. Assume for the sake of contradiction that it is computable, so that there exists a Turing machine M^5 that computes L^5. We can use M^5 to decide the halting problem. The halting problem asks whether a Turing machine M halts on input x. When given such an M and input x, we construct a new Turing machine M_1 that for four random inputs excluding x, we make M_{new} output 1. For input x, we make it output 1 if M outputs either 1 or 0. We now compute M_{new} using M^5. If and only if M^5 outputs 1, then M halts on x. This decides the halting problem, which we know to be incomputable. Thus, L^5 is incomputable.