## Abstract of Diffie-Hellman key exchange

Step 1: agree on common information


Step 2: Alice and Bob choose secret transformation of X and exchange that


Step 3: Alice and Bob create a common piece of information which can be used as a key
Alice calculates E1(E2(X))
Bob calculates $\mathrm{E} 2(\mathrm{E} 1(\mathrm{X}))=\mathrm{E} 1(\mathrm{E} 2(\mathrm{X}))$
Eve has $\mathrm{X}, \mathrm{E} 1(\mathrm{X})$ and $\mathrm{E} 2(\mathrm{X})$ but has no idea how to put them together to get $\mathrm{E} 1(\mathrm{E} 2(\mathrm{X}))=\mathrm{E} 2(\mathrm{E} 1(\mathrm{X}))$

