

Questions(100 points):

Suppose Alice has a UTXO/coin ($PK_A, 115$) on bitcoin blockchain, Bob has a UTXO/coin ($PK_B, 120$), and Carl has a UTXO/coin ($PK_C, 12$). Suppose someone has known the binding between the public keys and the real identities, say PK_A and Alice, PK_B and Bob, and PK_C and Carl. Please describe how the users can use the coin-mix service to enhance their privacy.

Hints: you need to describe the procedure in details, include the information between the users and the server, as well as the transactions generated in this procedure.