# Convex Optimization

## Tutorial 2

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* In our problem our main variable is , which denote the currency exchanges that we carry out, with ≥ 0 the amount of currency we exchange on the market for currency
* For each currency , we exchange into , a total of is exchanged, the vector representing this would be
* For the exchange of of currency , we receive of currency . We receive a total amount of currency which is , the vector representing this would be
* The amount of currency after all exchanges would be equal to
* The cost function for this entire transaction is
* The following are the constraints
* We minimize the cost function with being the optimization variables
* The constraints were given in the problem statement
* The cost function was written based on the “currency holdings value” in USD
* Our main variable was , and we had to find its optimal value so that it can minimize our cost of exchanges in USD