Blockchain Homework-2 Report

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Part 1: Answers

1. The number of transactions in the dataset are **10000055** and the total number of addresses in the dataset are **8385065**.

2. The Bitcoin address holding the greatest amount of bitcoins is: **1933phfhK3ZgFQNLGSDXvqCn32k2buXY8a** and the amount it is holding: **11111100000000.0** Satoshis.

3. Average balance per address: **125959453.25504075.**

4. The average number of input and output transactions per address: **2.405294890379502** and **2.7747914893921513** respectively. The average number of transactions (inputs + outputs) per address: **5.179810520139391.**

5. The transaction that has the greatest number of inputs is **9621b3c67f9bddd3de65fafc488087b8f2b40b638e3a06209a904c66c0b32982.** And it has **1312** inputs.

6. Average transaction value is **12315588064.03543.**

7. Number of coinbase transactions in the dataset are **212576**.

8. Average number of transactions per block is **47.04225782778865.**

Part 2: Answers

1. Number of users in the dataset are **4315768**.

2. The Bitcoin user holding the greatest amount of bitcoins has **2645440** addresses and also holds the address ID 0 and the amount he is holding is **213940806015232.0** Satoshis.

3. Average balance per user is **244725402.87820193.**

4. Average number of input and output transactions per user is **4.672982653377105** and **5.390816420159749** respectively. The average number of transactions per user (including both inputs and outputs) is **10.06378937134219**.

Instructions on how to run the code to obtain the above answers:

1. Unzip the file "Nikhilesh Reddy_Tummala_HW2.zip" into the folder where the reduced dataset is stored.
2. The source code is present in the files by the name "Part-1.py", "Part-2.py" and "Graph.py". Compile and execute the code using the latest version of python.