

ZK.one Background Assignment

1. Screenshot and code attached in repository:
 - a. <https://github.com/chadlohrl/zkone/blob/main/zero/helloworld.png>
 - b. <https://github.com/chadlohrl/zkone/blob/main/zero/helloworld.sol>
2. Improved Ballot code
 - a. https://github.com/chadlohrl/zkone/blob/main/zero/improved_ballot.sol#L60
3. Gas Optimizations for 10 given rights to vote
 - a. Before: https://github.com/chadlohrl/zkone/blob/main/zero/original_ballot.png
 - i. $48657 \text{ gas (per tx)} * 10 \text{ gas (rights)} = 486,570 \text{ gas}$
 - b. After: https://github.com/chadlohrl/zkone/blob/main/zero/improved_ballot.png
 - i. $277,283 \text{ gas (one tx for 10 rights)}$
 - c. Total Savings:
 - i. $209,876 \text{ gas or } 75\% \text{ savings}$