BDL Coursework

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1. The King of Ether

The highest level overview of the smart contract for the King of Ether is that anyone can become the King by paying sufficient amount of Ether (at least as much as the last King).

When the contract is created, we are saving the information about the address of the owner in the `owner` variable and then automatically the creator becomes the King with the message `Let's play a game...` and with the value 1 wei.

Then we have multiple functions that allow other parties to take part in the game and become the King themselves. `claimThrone(string message)` function allows the user to pay a certain amount of Ether (`payable` keyword) and if the value is greater or equal from the highest value (value that the last King payed), then the user becomes the King with the message they passed to the function. There is also a restriction on the amount of Ether one can use to become the King (50 Ether) that can be lifted by the owner of the contract as described later. Moreover, any time a new King is determined, the last King's earnings are saved in the `earnings` map under his address. This way any user that was the King but got dethroned can recover their money using the `withdraw()` function.

We also have one getter in the form of `getKingsTotal()` that allows to see how many kings were there in total over the lifespan of the contract and `raiseRestriction()` that allows the owner to lift the restriction described two paragraphs above and allow users to pay more than 50 Ether to become the King.

Thankfully I managed to become the King at one point too. The ID of the transaction was

`0x903d0a4f95656cbfdbd520898fdfe811d39119e0d229a4effeb14a93d353a79f`,

my address is

`0x47ADEE763A7BDE2a03c029725C5f7c9315f3B42a`

and the message I used for the transaction was "`Test transaction please ignore`".

2. Rock-paper-scissors