# Description explained

## Strategy 1: EGLD - hold in the wallet - used as reference

- If you just keep the EGLD in your wallet, you don't do any trades or gain any interest
- E.g. if you have 1 EGLD which is 100$ now and at the end of the month is 150$, you made 50% profit

## Strategy 2: EGLD Staking - staking EGLD and getting APR

- Instead of holding it, you can stake, which is like puting it in the bank and earn interest on it (see APR in terminology)

## Strategy 3: EGLD and Redelegating - staking EGLD and re-delegating the rewards every X weeks (to be taken from an input field) and getting APY

- Stake EGLD which is like puting it in the bank and earn interest on it, and every X weeks re-invest the interest earned
- This will lead to getting **APY**, see terminology and mathematical expression below

## MEX Staking - staking MEX and getting APR

- Use MEX and put it in the bank to earn the interest (APR) for it

## MEX Staking and redelegating - taking MEX and re-delegating the rewards every X weeks (to be taken from an input field) and getting APY

- Stake MEX which is like puting in the bank and earn interest on it, and every X weeks re-invest the interest earned
- This will lead to getting **APY**, see terminology

# Tasks

1. Provide the % return on investment for each possible strategy in relation to EGLD hold in the wallet
2. Provide the calculation for each strategy and the value at the end in EGLD, MEX and USD and also which is the distribution (i.e. at the end how much MEX and EGLD you

have)

# Product flow

## Inputs

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# Questions for the creators of this task

- For staking providers they have a `serviceFee`, should we consider that when implementing the system?
  - **A**: no, we can use the APR only and ignore the `serviceFee`
- Some of the staking providers have a cap on the amount of EGLD that can be staked; should we consider only those which didn't reach their cap or we can consider we can stake at any provider?
  - **A**: we can assume that we can stake at any provider, but as an extension we can verify in the future which providers have enough capacity for the EGLD we have
- For the first task `provide % Return on investment for each of the possible strategy, in relation to EGLD hold in the wallet strategy (used as refference)` is this the division of the current value in USD from a given strategy divided by the current value after just holding the EGLD? e.g. if at the beginning we had 100$ and after holding we have 200$ but after our strategy we have 400$, then the return of investment is 200%?
  - **A**: it is the RoI vs a default strategy of just hoding EGLD. If we have 1 egld, that moved from 100$ to 200$ .this is the benchmark: 1 EGLD - 200$. If with our strategy, via staking we ended up with 2EGLD then the RoI is 100%
- For the re-delegation period which can be the smallest unit of time?
- **A**: 1 day is the smallest unit, and X can be 1 day, 1 week and 1 month
- The period X to reinvest is the same for EGLD and MEX or the user should be able to provide 2 different values?
  - **A**: the same X will be used for both
- The time range is from a date in the past to current date, or it can include dates from the future? If so, should we just display the current values and returns at the current time?
  - **A**: no, the time range is from now to a time in the future and we want to calculate the profit
- Based on your description, if the user inputs percentages of MEX and EGLD it means that they have EGLD only at the beginning but they want to have the distribution

given as input at the end. Can we convert EGLD to MEX at any time or we can do it only at specific times?

- **A**: The ELGD to MEX swap will happen only at the beginning of the interval. It is the same as if they had from the beginning that amount of MEX (i.e. it is like we buy MEX with EGLD from the first second)
- What do price targets mean? The price when they bought EGLD/MEX or the current price or something else?
  - **A**: It is the price the user estimates for EGLD and MEX at the end of the period
- For the MEX the reference APIs are refering to testnet. Should we use the MEX value from testnet or from the mainnet?
  - **A**: The document is outdated, we should use the mainnet.

## Notes:

- MEX can be converted to EGLD and EGLD to MEX

## Terminology

- **EGLD**: stands for Elrond Gold, it is the coin of Elrond (https://www.coingecko.com/en/coins/elrond)
- **MEX**: stands for Maiar Exchange; is the token/coin built over Elrond that is powering their exchange (maiar.exchange);
- **APR**: stands for Annual Percentage Rate and it is the interest you make in a year if you don't reinvest the interest earned in time; i.e. if you have 100$ with 10% APR you'll have 110$ in one year, 120% in 2 years
- **APY**: stands for Annual Percentage Yield and it is the interest you make if you reinvest the earned interest, in a year

  - $$APY = (1 + \frac{r}{n})^n - 1$$

    where `r` is the interest rate as decimal (e.g. 0.11% is 0.0011) and `n` is the number of periods the investment compounds in a year; e.g. if you can collect and reinvest the interest once/month then `n=12`