Python engineer task

Task description

The mid-market rate (sometimes called the interbank or middle rate) is the midpoint between the buy and sell prices of any two currencies at any time. And as the buy and sell rates are based on the constantly changing demand for and supply of a currency, the mid-market rate is constantly changing too.

Your task is to develop a mid-market currency converter API using FastAPI. This API will have the following endpoints:

- **`/convert`**
    - take a total of 3 parameters: `amount`, `from_currency`, `to_currency`
    - this endpoint will return the converted amount and mid-market rate in the following format:

```
{
     "converted_amount": <float>,
     "rate":  <float>,
     "metadata": {
          "time_of_conversion": <datetime>,
          "from_currency": <string>,
          "to_currency": <string>
     }
}
```

- **`/currencies`**
    - this endpoint will return a dictionary containing all supported currencies on selected website and their currency codes. Data will be returned in the following format:

```
{
     <currency>: <currency_code>,
}
```

- **`/history`**
    - this endpoint returns a list of all previously made conversions in the following format:

```
[
    {
        "converted_amount": <float>,
        "rate":  <float>,
        "metadata": {
            "time_of_conversion": <datetime>,
            "from_currency": <string>,
            "to_currency": <string>
        }
    },
]
```

Requirements & limitations

- All endpoints must be protected with **API key** auth. It is not necessary to provide login/signup logic in this API, but the required API key must work on all endpoints.
- All currencies will be identified by their currency code, which is a 3 letter identifier. eg. USD, EUR, ZAR.
- The mid-market rate is not used for a lot of currency converter websites. It is therefore important to use either of the following websites to obtain the rates:
    - https://wise.com/gb/currency-converter/
    - https://www.xe.com/
- Python 3.10+
- FastAPI framework
- Asynchronous programming (where possible)

You are to scrape the values from any of these websites using any scraping tools or methods you are comfortable with. Remember, web scraping is not just parsing HTML contents, it can also be reverse engineering API calls to obtain data.

Delivery

- Take this as an opportunity to showcase your skills! Any **additional functionality is very welcomed**. However, make sure to allocate no more than **4 hours** to implement this task.

- Include **README.md** file with instructions on how to start the application and expose **API documentation** (feel free to use auto-generated FastAPI documentation).

- Send a **GitHub link** with a solution to **tamara@shake.io**

Good luck!