AI ASSIGNMENT – THINKPROMPT

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Question 1: Algorithm

Requirements:

You're given two integer `a` and `b` (`b` is larger than `a`).

Return the sum of odd numbers between them (not include `a` and `b`).

Example

- For `a = 3` and `b = 9`, the output should be `sumOfOddNumbers(a,b)=12`.
  There are only 2 odd numbers `5` and `7` between `3` and `7`, the sum of these numbers is `5 + 7 = 12`

Input/Output

- **[execution time limit] 0.5 seconds**
- **[input] integer a**
  The first integer
  Guaranteed constraint:
  `-1 < a < 1e8`.
- **[input] integer b**
  The second integer
  Guaranteed constraint:
  `0 < b < 1e8 + 1`.
- **[output] integer**
  Return the answer modulo `10000007`

Answer:

```python
def sumOdd(n):
    terms = int((n + 1) / 2);
    sum = terms * terms;
    return sum;


def sumOfOddNumbers(a,b):
    sum_odd = sumOdd(b-1) - sumOdd(a)
    return sum_odd % 10000007 # advoid large number
```

Result:

No	Submit Time	Language	Test Case	Score	Excute Time(s)	Submitted B
1	Sunday, September 17, 2023 at 10:07:18 PM GMT+7	Python3	11/11	150	0.01	datacol******

Question 2: Algorithm

Requirements:

Write a python code in Python using OpenAI API to translate a text to another language.
Example:
Input:
{
‘text’: ‘Hello’,
‘dest_language’: vi
}
Expected output: ‘Xin chào’
3.2 Same as 3.1, but input is a list of text.
{
‘text’: [‘Hello’, ‘I am Peter’
‘dest_language’: vi
}
Expected output: [‘Xin chào’, ‘Tôi tên là Peter’]

Answer:

```
import os
import openai
openai.api_key = os.getenv('OPENAI_API_KEY')

SRC_LANG = 'en'
MODEL_NAME = 'text-davinci-003'
def translate_text(request) -> str or list:
    result = None
    if isinstance(request['text'], str):
        text = request['text']
        dest_lang = request['dest_language']
```

```
        prompt = f"Translate the following text from {SRC_LANG} to {dest_lang}:
{text}"

        response = openai.Completion.create(engine = MODEL_NAME,  prompt = prompt
            ,max_tokens = 50, temperature = 0.7, n = 1, stop = None
        )
        translation = response.choices[0].text.strip()

        result = translation

    if isinstance(request['text'], list):
        texts = request['text']
        dest_lang = request['dest_language']
        translations = []
        for text in texts:
            prompt = f"Translate the following text from {SRC_LANG} to {dest_lang}:
{text}"
            response = openai.Completion.create(engine = MODEL_NAME,  prompt = prompt
                ,max_tokens = 50, temperature = 0.2 # fix temperature low --> keep
stable output
                , n = 1, stop = None
            )
            translation = response.choices[0].text.strip()
            # text processing
            if '\n\n' in translation:
                translation = translation.split('\n\n')[1]

            translations.append(translation)
        result = translations

    return result

if __name__ == '__main__':
    request = {
        'text': 'Hello'
        , 'dest_language': 'vi'
    }
    print(translate_text(request))

    request = {
        'text': ['Hello', 'I am Peter']
        , 'dest_language': 'vi'
    }
    print(translate_text(request))
```

Result:

Xin chào
['Xin chào', 'Tôi là Peter']