1.LLM

    1.1 Base LLM : predicts next word

    1.2 Instruction : Tuned LLM Tries to follow instructions

2.原则：

    2.1 明确与具体的指令

        使用分隔符指示输入的不同部分

        要求模型结构化输出

        要求模型检查是否满足条件

        预先少量训练 prompt

    2.2 足够的时间

        指定任务步骤

        做出结论前给出推理的解决方案

    2.3 模型局限性

        编造听起来合理但不正确的答案（模型幻觉）,可以通过要求模型溯源使用引用来回答问题减缓

3.迭代

        多次测试更改 prompt 以达到想要的输出效果

4.摘要

        根据 prompt 总结文本内容

5.推理

6.转换

        输入输出格式转换

        语法修正

        语气转换

7 扩展.

        将短文本扩展转化为更长的文本例如：电子邮件，文章等

        Temperature：模型的探索程度或随机性，获得更加广泛的输出

8.聊天机器人

```python
text = f"""
You should express what you want a model to do by \
providing instructions that are as clear and \
specific as you can possibly make them. \
This will guide the model towards the desired output, \
and reduce the chances of receiving irrelevant \
or incorrect responses. Don't confuse writing a \
clear prompt with writing a short prompt. \
In many cases, longer prompts provide more clarity \
and context for the model, which can lead to \
more detailed and relevant outputs.
"""
prompt = f"""
Summarize the text delimited by triple backticks \
into a single sentence.
```{text}```
"""
response = get_completion(prompt)
print(response)
```

To guide a model towards the desired output and reduce irrelevant or incorrect responses, it is important to provide clear and specific instructions, which can be achieved through longer prompts that offer more clarity and context.

```python
prompt = f"""
Generate a list of three chinese book titles along \
with their authors and genres.
Provide them in JSON format with the following keys:
book_id, title, author, genre.
"""
response = get_completion(prompt)
print(response)
```

```json
{
  "books": [
    {
      "book_id": 1,
      "title": "活着",
      "author": "余华",
      "genre": "现代文学"
    },
    {
      "book_id": 2,
      "title": "红楼梦",
      "author": "曹雪芹",
      "genre": "古典文学"
    },
    {
      "book_id": 3,
      "title": "三体",
      "author": "刘慈欣",
      "genre": "科幻"
    }
  ]
}
```

In [8]:
```python
prompt = f"""
推荐三部科幻电影 \
分别列出他们的导演和上映时间
用 JSON 的格式分别列出：
电影编号,电影名字,导演,上映时间.
"""
response = get_completion(prompt)
print(response)
```

```json
{
  "1": {
    "电影名字": "星际穿越",
    "导演": "克里斯托弗·诺兰",
    "上映时间": "2014年"
  },
  "2": {
    "电影名字": "盗梦空间",
    "导演": "克里斯托弗·诺兰",
    "上映时间": "2010年"
  },
  "3": {
    "电影名字": "黑客帝国",
    "导演": "莉莉·沃卓斯基、拉娜·沃卓斯基",
    "上映时间": "1999年"
  }
}
```

```python
text_1 = f"""
Making a cup of tea is easy! First, you need to get some \
water boiling. While that's happening, \
grab a cup and put a tea bag in it. Once the water is \
hot enough, just pour it over the tea bag. \
Let it sit for a bit so the tea can steep. After a \
few minutes, take out the tea bag. If you \
like, you can add some sugar or milk to taste. \
And that's it! You've got yourself a delicious \
cup of tea to enjoy.
"""
prompt = f"""
You will be provided with text delimited by triple backticks.
If it contains a sequence of instructions, \
re-write those instructions in the following format:

Step 1 - ...
Step 2 - …
…
Step N - …

If the text does not contain a sequence of instructions, \
then simply write \"No steps provided.\"

''' {text_1}'''
"""
response = get_completion(prompt)
print("Completion for Text 1:")
print(response)
```

```
Completion for Text 1:
Step 1 - Get some water boiling.
Step 2 - Grab a cup and put a tea bag in it.
Step 3 - Once the water is hot enough, pour it over the tea bag.
Step 4 - Let the tea steep for a bit.
Step 5 - After a few minutes, take out the tea bag.
Step 6 - Add sugar or milk to taste, if desired.
Step 7 - Enjoy your delicious cup of tea.
```

```python
text = f"""
In a charming village, siblings Jack and Jill set out on \
a quest to fetch water from a hilltop \
well. As they climbed, singing joyfully, misfortune \
struck—Jack tripped on a stone and tumbled \
down the hill, with Jill following suit. \
Though slightly battered, the pair returned home to \
comforting embraces. Despite the mishap, \
their adventurous spirits remained undimmed, and they \
continued exploring with delight.
"""
# example 1
prompt_1 = f"""
Perform the following actions:
1 - Summarize the following text delimited by triple \
backticks with 1 sentence.
2 - Translate the summary into French.
3 - List each name in the French summary.
4 - Output a json object that contains the following \
keys: french_summary, num_names.

Separate your answers with line breaks.

Text:
```{text}```
"""
response = get_completion(prompt_1)
print("Completion for prompt 1:")
print(response)
```

```
Completion for prompt 1:
1 - Jack and Jill, siblings, go on a quest to fetch water from a hilltop well, but encounter misfortune when Jack trips on a stone and tumbles down the hill, with Jill following suit, yet they return home and remain undeterred in their adventurous spirits.

2 - Jack et Jill, frère et sœur, partent en quête d'eau d'un puits au sommet d'une colline, mais rencontrent un malheur lorsque Jack trébuche sur une pierre et dévale la colline, suivi par Jill, pourtant ils rentrent chez eux et restent déterminés dans leur esprit d'aventure.

3 - Jack, Jill

4 - {
  "french_summary": "Jack et Jill, frère et sœur, partent en quête d'eau d'un puits au sommet d'une colline, mais rencontrent un malheur lorsque Jack trébuche sur une pierre et dévale la colline, suivi par Jill, pourtant ils rentrent chez eux et restent déterminés dans leur esprit d'aventure.",
```

```python
prompt = f"""
Tell me about AeroGlide UltraSlim Smart Toothbrush by Boie
"""
response = get_completion(prompt)
print(response)
```

The AeroGlide UltraSlim Smart Toothbrush by Boie is a technologically advanced toothbrush designed to provide a superior brushing experience. Boie is a company known for its innovative oral care products, and the AeroGlide UltraSlim Smart Toothbrush is no exception.

One of the standout features of this toothbrush is its ultra-slim design. The brush head is only 2mm thick, making it much thinner than traditional toothbrushes. This slim profile allows for better access to hard-to-reach areas of the mouth, ensuring a thorough and effective clean.

The AeroGlide UltraSlim Smart Toothbrush also incorporates smart technology. It connects to a mobile app via Bluetooth, allowing users to track their brushing habits and receive personalized recommendations for improving their oral hygiene routine. The app provides real-time feedback on brushing technique, duration, and coverage, helping users to achieve optimal oral health.

The toothbrush features soft, antimicrobial bristles made from a durable thermoplastic elastomer. These bristles are gentle on the gums and teeth, while also being effective at removing plaque and debris. The antimicrobial properties of the bristles help to inhibit the growth of bacteria, keeping the brush clean and hygienic.

In terms of battery life, the AeroGlide UltraSlim Smart Toothbrush boasts an impressive 30-day battery life on a single charge. This makes it convenient for travel and ensures that users don't have to worry about constantly recharging their toothbrush.

Overall, the AeroGlide UltraSlim Smart Toothbrush by Boie offers a combination of advanced technology, slim design, and effective cleaning capabilities. It is a great option for those looking to upgrade their oral care routine and achieve a healthier smile.

```python
In [25]:  for i in range(len(reviews)):
    prompt = f"""
    Your tasks are to generate a short summary about advantages of a product \
    review from an ecommerce site and  to summarize Why people choose the product. \
    in thr following format:
    advantage 1 - ...
    advantage 2 - ...
    ...
    advantage N - ...
    choose renson 1 - ...
    choose renson 2 - ...
    ...
    choose renson N - ...

    Summarize the review below, delimited by triple \
    backticks

    Review: ```{reviews[i]}```
    """

    response = get_completion(prompt)
    print(i, response, "\n")
```

```
0 advantage 1 - Additional storage
advantage 2 - Reasonable price point
advantage 3 - Fast delivery
advantage 4 - Excellent customer support
choose reason 1 - Company cares about customers
choose reason 2 - Company provides quick solutions to issues

1 advantage 1 - Impressive battery life
advantage 2 - Good deal if purchased around $50
advantage 3 - Makes teeth feel sparkly clean
choose reason 1 - Recommended by dental hygienist
choose reason 2 - Battery lasts for weeks on a single charge
choose reason 3 - Provides a dentist-like clean feeling

2 advantage 1 - The product was on sale for a discounted price during the month of November.
advantage 2 - The product comes with multiple blades for different purposes, such as crushing hard items or making smoothies.
advantage 3 - The tip of freezing fruits and vegetables before making smoothies helps reduce the need for adding ice.
choose reason 1 - The customer had previous positive experiences with the brand's earlier editions of the product.
choose reason 2 - The customer values quick delivery, as the product arrived in about two days.
```

```python
prompt = f"""
Your task is recommand a famous Chinese book about universe, \
introduce why recomand this book , story content,protagonist of the book and when was it published. \
Perform the following actions:
1 - recommend reason
2 - story content
3 - protagonist
4 - date of publication
"""
response = get_completion(prompt)
print(response, "\n")
```

1 - I recommend the book "The Three-Body Problem" by Liu Cixin as it is a famous Chinese science fiction novel that explores the mysteries of the universe. It has gained international recognition and has won several prestigious awards, including the Hugo Award for Best Novel.

2 - The story of "The Three-Body Problem" revolves around a secret military project in China during the Cultural Revolution era. The protagonist, Ye Wenjie, witnesses her father's execution during this time and is sent to a remote labor camp. There, she gets involved in a mysterious virtual reality game called "Three-Body," which is set on a planet with three suns. As the story progresses, it intertwines with the present-day narrative, where a nanomaterials researcher named Wang Miao is recruited to investigate a series of strange events related to the game and its connection to the real world.

3 - The main protagonist of the book is Ye Wenjie, a brilliant astrophysicist who becomes disillusioned with humanity and seeks contact with an alien civilization. Her character is complex and driven by her traumatic experiences, leading her to make decisions that have far-reaching consequences.

4 - "The Three-Body Problem" was originally published in Chinese in 2008. It gained popularity in China and was later translated into English by Ken Liu, allowing it to reach a wider international audience.

```
text = "我的朋友爱上了他的同事阿志，可她没有告诉他，她告诉了她另一个同事阿豪，\
阿豪答应她不告诉别人，可是她的同事阿德告诉她，阿豪偷偷告诉他另一个同事阿林，\
阿林又和阿志以前的女朋友阿兰很熟，他怕阿林会告诉阿兰，然后阿兰去告诉阿志，\
这样她就会觉得很尴尬，幸好现在阿兰和阿德现在正在谈恋爱，所以他就去找阿德解决这个问题，\
阿德跟她说，阿兰跟他已经分手了，她现在跟阿林好上了，让他去找阿林，可是阿林跟她说，\
阿豪其实根本就没跟他说什么，现在她晕了，她究竟应该相信谁？\
"
```

```
prompt = f"""
你的任务是阅读下面者段文本，并给出文本内问题的答案
Text:
'''{text}'''
"""
response = get_completion(prompt)
print(response, "\n")
```

问题的答案是:

她应该相信阿豪，因为阿林说阿豪其实根本就没跟他说什么。

```
text = "大舅去二舅家找三舅说四舅被五舅骗去六舅家偷七舅放在八舅柜子里九舅借十舅发给十一舅工资的1000元"
```

```
prompt = f"""
你的任务是阅读下面者段文本，并回答一下问题
问题:
1.谁是小偷
2.钱本来是谁的
Text:
'''{text}'''
"""
response = get_completion(prompt)
print(response, "\n")
```

根据文本，我们可以得出以下答案:
1. 小偷是四舅。
2. 钱本来是十一舅的。

```
prod_review = """
Got this panda plush toy for my daughter's birthday, \
who loves it and takes it everywhere. It's soft and \
super cute, and its face has a friendly look. It's \
a bit small for what I paid though. I think there \
might be other options that are bigger for the \
same price. It arrived a day earlier than expected, \
so I got to play with it myself before I gave it \
to her.
"""
```

```
prompt = f"""
Your task is to generate a short summary of a product \
review from an ecommerce site.

Summarize the review below, delimited by triple
backticks, in at most 30 words.

Review: ```{prod_review}```
"""

response = get_completion(prompt)
print(response)
```

This panda plush toy is loved by the reviewer's daughter, but they feel it is a bit small for the price.

```python
code = """
    iteration1 = []
    acc1 = []
    i = 0
    with open(\'/home/lsf/facenet-pytorch/eval_robustness/wm32_random-del_wmacc.txt\', \'r\') as file: \
        for line in file.readlines(): \
            line=float(line) \
            acc1.append(line) \
            iteration1.append(i) \
            i +=0.05 \
"""

prompt = f"""
Your task is to explain what the following python code does

Explain the code below, delimited by triple
backticks, in at most 30 words.

Code: ```{code}```
"""

response = get_completion(prompt)
print(response)
```

The code reads a file line by line, converts each line to a float, and appends it to two lists (acc1 and iteration1) along with an increment
ing value.