

Summarizing

In this lesson, you will summarize text with a focus on specific topics.

Setup

```
In [2]: import openai
import os

from dotenv import load_dotenv, find_dotenv
_ = load_dotenv(find_dotenv()) # read local .env file

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

```
In [3]: def get_completion(prompt, model="gpt-3.5-turbo"): # Andrew mentioned that the prompt/ completion paradigm is preferred
    messages = [{"role": "user", "content": prompt}]
    response = openai.ChatCompletion.create(
        model=model,
        messages=messages,
        temperature=0, # this is the degree of randomness of the model's output
    )
    return response.choices[0].message["content"]
```

Text to summarize

```
In [4]: 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.
"""
```

Summarize with a word/sentence/character limit

```
In [5]: 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)
```

Soft and cute panda plush toy loved by daughter, but a bit small for the price. Arrived early.

Summarize with a focus on shipping and delivery

```
In [6]: prompt = f"""
Your task is to generate a short summary of a product \
review from an ecommerce site to give feedback to the \
Shipping department.

Summarize the review below, delimited by triple
backticks, in at most 30 words, and focusing on any aspects \
that mention shipping and delivery of the product.

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

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

The panda plush toy arrived a day earlier than expected, but the customer felt it was a bit small for the price paid.

Summarize with a focus on price and value

```
In [7]: prompt = f"""
Your task is to generate a short summary of a product \
review from an ecommerce site to give feedback to the \
pricing department, responsible for determining the \
price of the product.

Summarize the review below, delimited by triple
backticks, in at most 30 words, and focusing on any aspects \
that are relevant to the price and perceived value.

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

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

The panda plush toy is soft, cute, and loved by the recipient, but the price may be too high for its size.

Comment

- Summaries include topics that are not related to the topic of focus.

Try "extract" instead of "summarize"

```
In [8]: prompt = f"""
Your task is to extract relevant information from \
a product review from an ecommerce site to give \
feedback to the Shipping department.

From the review below, delimited by triple quotes \
extract the information relevant to shipping and \
delivery. Limit to 30 words.

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

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

The product arrived a day earlier than expected.

Summarize multiple product reviews

In [9]:

```
review_1 = prod_review

# review for a standing lamp
review_2 = """
Needed a nice lamp for my bedroom, and this one \
had additional storage and not too high of a price \
point. Got it fast - arrived in 2 days. The string \
to the lamp broke during the transit and the company \
happily sent over a new one. Came within a few days \
as well. It was easy to put together. Then I had a \
missing part, so I contacted their support and they \
very quickly got me the missing piece! Seems to me \
to be a great company that cares about their customers \
and products.
"""

# review for an electric toothbrush
review_3 = """
My dental hygienist recommended an electric toothbrush, \
which is why I got this. The battery life seems to be \
pretty impressive so far. After initial charging and \
leaving the charger plugged in for the first week to \
condition the battery, I've unplugged the charger and \
been using it for twice daily brushing for the last \
3 weeks all on the same charge. But the toothbrush head \
is too small. I've seen baby toothbrushes bigger than \
this one. I wish the head was bigger with different \
length bristles to get between teeth better because \
this one doesn't. Overall if you can get this one \
around the $50 mark, it's a good deal. The manufactuer's \
replacements heads are pretty expensive, but you can \
get generic ones that're more reasonably priced. This \
toothbrush makes me feel like I've been to the dentist \
every day. My teeth feel sparkly clean!
"""

# review for a blender
review_4 = """
So, they still had the 17 piece system on seasonal \
sale for around $49 in the month of November, about \
half off, but for some reason (call it price gouging) \
around the second week of December the prices all went \
up to about anywhere from between $70-$89 for the same \
system. And the 11 piece system went up around $10 or \
so in price also from the earlier sale price of $29. \
So it looks okay, but if you look at the base, the part \
where the blade locks into place doesn't look as good \
as in previous editions from a few years ago, but I \
plan to be very gentle with it (example, I crush \
very hard items like beans, ice, rice, etc. in the \
blender first then pulverize them in the serving size \
I want in the blender then switch to the whipping \
blade for a finer flour, and use the cross cutting blade \
first when making smoothies, then use the flat blade \
if I need them finer/less pulpy). Special tip when making \
smoothies, finely cut and freeze the fruits and \
vegetables (if using spinach-lightly stew soften the \
spinach then freeze until ready for use-and if making \
sorbet, use a small to medium sized food processor) \
that you plan to use that way you can avoid adding so \
much ice if at all-when making your smoothie. \
After about a year, the motor was making a funny noise. \
I called customer service but the warranty expired \
already, so I had to buy another one. FYI: The overall \
quality has gone done in these types of products, so \
they are kind of counting on brand recognition and \
consumer loyalty to maintain sales. Got it in about \
two days.
"""

reviews = [review_1, review_2, review_3, review_4]
```

```
In [10]: for i in range(len(reviews)):
        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 20 words.

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

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

0 Soft and cute panda plush toy loved by daughter, but a bit small for the price. Arrived early.

1 Affordable lamp with storage, fast shipping, and excellent customer service. Easy to assemble and missing parts were quickly replaced.

2 Good battery life, small toothbrush head, but effective cleaning. Good deal if bought around \$50.

3 The product was on sale for \$49 in November, but the price increased to \$70-\$89 in December. The base doesn't look as good as previous editions, but the reviewer plans to be gentle with it. A special tip for making smoothies is to freeze the fruits and vegetables beforehand. The motor made a funny noise after a year, and the warranty had expired. Overall quality has decreased.

Try experimenting on your own!

```
In [11]: The 12-inch MacBook Air has a few great updates over the slightly older 11-inch model that we think make the device feel better.
        However, this laptop isn't ideal for people who edit photos, videos, or otherwise process large media files. Our team
        We recommend the basic $1,000 version of the MacBook Air, which has enough speed, memory, and storage for most day-

        The Air includes only two USB-C ports (which support Thunderbolt 3) plus a headphone jack—but Thunderbolt docks and
        The 15-inch M2 MacBook Air is an upgrade over the 13-inch model, with a significantly larger screen and better speakers.

        We also think this laptop is better for editing audio or video than the 13-inch version. In addition to its upgrade
        """
```

```
In [12]: prompt=f"""
        Based on the review comparison of different macbook air models your
        task is to give a short summary of each model in a table format.
        ```{mac_air}```
 """

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

| Model          | Processor | Screen Size | Price   | Recommended Use                                                                                                              |
|----------------|-----------|-------------|---------|------------------------------------------------------------------------------------------------------------------------------|
| M1 MacBook Air | Apple M1  | 13-inch     | \$999   | Budget pick for everyday tasks, web browsing, and light photo and video editing                                              |
| M2 MacBook Air | Apple M2  | 13-inch     | \$1,099 | Great for everyday tasks, web browsing, and light photo and video editing with brighter display and higher-resolution webcam |
| M2 MacBook Air | Apple M2  | 15-inch     | \$1,999 | Upgrade pick for larger screen, better speakers, and better performance for editing audio or video                           |

```
In [13]: prompt=f"""
Based on the review comparison of different macbook air models your
task is to give a short summary of each model in a table format. Give
emphasis to value for money.
```{mac_air}```
"""

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

| Model | Processor | Screen Size | Price | Value for Money |
|------------------------|-----------|-------------|---------|-----------------|
| 13-inch M1 MacBook Air | M1 | 13 inches | \$999 | Excellent |
| 13-inch M2 MacBook Air | M2 | 13 inches | \$999 | Good |
| 15-inch M2 MacBook Air | M2 | 15 inches | \$1,999 | Good |

The 13-inch M1 MacBook Air is an excellent value for money option for everyday tasks. The 13-inch M2 MacBook Air offers some upgrades over the M1 model, including a brighter display and higher-resolution webcam. The 15-inch M2 MacBook Air is a good option for those who need a larger screen and better speakers, and it's better for editing audio or video than the 13-inch version. Overall, the M1 MacBook Air is the best value for money option, while the M2 models offer some upgrades for those who need them.

```
In [14]: prompt=f"""
Based on the review comparison of different macbook air models your
task is to give a short summary of each model in a table format. Give
emphasis to value for money. Which one is better for a research student.
```{mac_air}```
"""

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

| Model          | Processor | Screen Size | Price   | Value for Money | Recommended for                                                                                                                                                     |
|----------------|-----------|-------------|---------|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| M1 MacBook Air | Apple M1  | 13-inch     | \$999   | Excellent       | Budget buyers, everyday work tasks, browsing the web, watching movies, and playing App Store games                                                                  |
| M2 MacBook Air | Apple M2  | 13-inch     | \$1,199 | Good            | Web browsing, working on documents, coding, and light photo and video editing, better thermal performance, brighter display, higher-resolution webcam, MagSafe port |
| M2 MacBook Air | Apple M2  | 15-inch     | \$1,999 | Good            | Editing audio or video, larger screen, better speakers, slightly better thermal performance, running cooler during processor-intensive tasks                        |

```
In [16]: prompt=f"""
Based on the review comparison of different macbook air models your
task is to give a short summary of each model in a table format. Give
emphasis to value for money. Which one is better for a research student - only show the best one in the final table
```{mac_air}```
"""

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

| Model | Processor | Screen Size | Price | Value for Money |
|--------------------------|-----------|-------------|---------|---|
| 13-inch MacBook Air (M1) | Apple M1 | 13.3 inches | \$999 | Best budget pick for everyday tasks, fast and reliable, long battery life, no cooling fan, but not ideal for heavy media processing |
| 13-inch MacBook Air (M2) | Apple M2 | 13.3 inches | \$999 | Great upgrades over M1 model, brighter display, higher-resolution webcam, MagSafe charging port, but still not ideal for heavy media processing |
| 15-inch MacBook Air (M2) | Apple M2 | 15.6 inches | \$1,999 | Upgrade over 13-inch model, larger screen and better speakers, better for editing audio or video, runs cooler during processor-intensive tasks |

For a research student, the best value for money would be the 13-inch MacBook Air (M1) as it is a budget pick and has enough speed, memory, and storage for most day-to-day computer tasks. It also has a long battery life and is silent even when maxing out the processor. However, if the student needs a larger screen and better speakers for audio or video editing, the 15-inch MacBook Air (M2) would be a better option despite the higher price.

In []: