Python OpenAI API Cheat Sheet

Full Blog Tutorial: *https://blog.finxter.com/openapi-cheat-sheet/*

Getting Started

Installation (CMD, Terminal, Shell, Powershell)

```
pip install openai
# or
pip3 install openai
```

First Prompt

```
import os
import openai

# Create, copy, and paste your API key here:
openai.api_key = "sk-123456789"

response = openai.Completion.create(
              model="text-davinci-003",
              prompt="2+2=",
              temperature=0, max_tokens=10)
```

Using GPT-4

```
system = 'You only reply in emojis!'
prompt = 'Who are you?'

res = openai.ChatCompletion.create(
            model="gpt-4",
            messages=[
                {"role": "system",
                 "content": system},
                {"role": "user",
                 "content": prompt}
            ],
            max_tokens=100,
            temperature=1.2)

print(res['choices'][0]['message']['content'])
# Answer:
```

JSON Output Format

```
{"choices": [
    {
      "finish_reason": "stop",
      "index": 0,
      "logprobs": null,
      "text": "4\n\n2+2=4"
    }
  ],
  "created": 1682409707,
  "id": "cmpl-797uNKSjEKE5cMlod1MeXkueIetkC",
  "model": "text-davinci-003",
  "object": "text_completion",
  "usage": {
    "completion_tokens": 8,
    "prompt_tokens": 4,
    "total_tokens": 12
  }
}
```

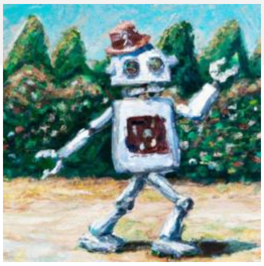
Generating Images Programmatically with DALL-E

```
prompt = "An oil painting of a dancing robot
in the style of Monet"

response = openai.Image.create(
    prompt=prompt,
    n=1,
    size="256x256")

url = response["data"][0]["url"]
print(url)
# https://...
```

Resolution	Price
1024x1024	$0.020 / image
512x512	$0.018 / image
256x256	$0.016 / image



Example Sentiment Analysis

```
prompt = """Do sentiment analysis on the
following text. Text: 'Oh, I just adore how
the sun shines so brightly at 5 a.m., waking
me up every single morning!'"""

response = openai.Completion.create(
    engine="text-davinci-003",
    prompt=prompt,
    max_tokens=200,
    n=1,
    stop=None,
    temperature=0.5
)

sentiment = response.choices[0].text.strip()
print(sentiment)
# Sentiment: Positive
```

Arguments Python OpenAI API Call

- ✓ **model**: Specifies the model version, e.g., 'gpt-4.0-turbo'.
- ✓ **prompt**: The input text for the model to process (e.g., question)
- ✓ **max_tokens**: Maximum tokens in the response. Roughly equates to number of words.
- ✓ **temperature**: Controls output randomness (0 to 1). Higher value leads to more random replies.
- ✓ **top_p**: Nucleus sampling strategy (0 to 1). Model will only consider subset of tokens whose probability exceeds top_p.
- ✓ **n**: Number of independent completions to explore.
- ✓ **stream**: Use streaming mode (True or False) to return results incrementally (e.g., for real-time apps).
- ✓ **echo**: Include input prompt in output (True or False).
- ✓ **stop**: Stopping sequence(s) for generation (string or list of strings).
- ✓ **presence_penalty**: Penalizes similar tokens in output.
- ✓ **frequency_penalty**: Penalizes frequent tokens in output.