How can startups quickly and easily develop services using Chat GPT?

Reon Ahn(Sang Sun, Ahn)
sangsun.ahn@m-robo.com

About Me

I'm currently doing...

- **Founder and CEO of M-Robo, a Korean media startup**
- Teaching data analysis as an adjunct professor at a university
- Supporting start-up companies as a data consultant
- Development of economic education contents as a PhD in Economics

M-Robo is...

- A media startup that produces and distributes news without reporters
- Use of robotic journalism technology using Robot Process Automation (RPA)
- Conducting various collaborative projects such as blockchain, fintech, and A.I

About Me

Press release

엠로보 안상선

entire | image | video | news | see more | equipment

9 results (0.20 seconds)

Maeil Economy

[Maekyung CEO Special Lecture] Ahn Sang-seon, CEO of Emrobo / Lecture at Hanyang University

We need to develop insight to read not only financial statements, but also corporate vision and future technology capabilities." Ahn Sang-seon, CEO of M-ROBO, recently...

2021. 10. 4.

Biz Today

'To fulfill the digital asset pledge and to innovate the digital new economy ecosystem...

CEO Ahn Sang-seon (CEO of mRobo) discussed the current transition committee's pledges related to the VASPS and AML evaluations of financial companies and the main contents for the implementation of the virtual asset trading banking system...

2022. 4. 12.

electronic newspaper

[Financial industry catfish, fintech is going] Ahn Sang-seon, CEO of mRobo "Robot...

Ahn Sang-seon, CEO of mRobo, develops a service that provides investment information to financial companies and individuals based on robot journalism. Emrobo service is provided by the Financial Supervisory Service...

2017. 12. 27.

Maeil Economy

Meet the giant who reads the times

... Fund CEO gave a lecture on the current status and future of the domestic fintech market at Hanyang University on the 16th, and Ahn Sang-seon, CEO of Emrobo, lectured on the process of creating data products at Hanyang University on the 9th.

2021. 9. 22.

information communication newspaper

"Fact check automation technology applied in each field is highly responsive"

EmRobo (CEO Ahn Sang-seon) invests in 'robot journalism service' that analyzes data and provides processed information based on fact-check automation technology to financial companies and individuals...

2019. 4. 2.

Miracle Ahead

Ahn Sang-seon, CEO of M-Robo, MVP is the process of making a cultivator

At this meeting, Ahn Sang-seon, CEO of Emrobo Co., Ltd., which commercialized the robot journalism service, discussed the MVP (Minimum Value Product) development

Money-Robo (Our Service)

www.money-robo.com

Fintech Demo Day

*2018 Fintech Festival (Singapore)

*2017 Korea-Malaysia Fintech Road Show

What stage of service development are you currently

Service concept classified by various criteria

Classification according to data source

- Use only provided data or your own data
- Use other data platforms (public, private, open data) together
- Use overseas data and platforms (e.g. targeting foreigners and global services, etc.)
- Use data collected by your company

Service type

- App and web service
- Services that can be Add-On to existing platforms: “Chatbot” “Analysis tool”, etc.
- Game and media content (Metaverse, etc.)
- News and media solutions, etc.(New Letters, Magazine)

Service concept classified by various criteria

Key technologies and fields

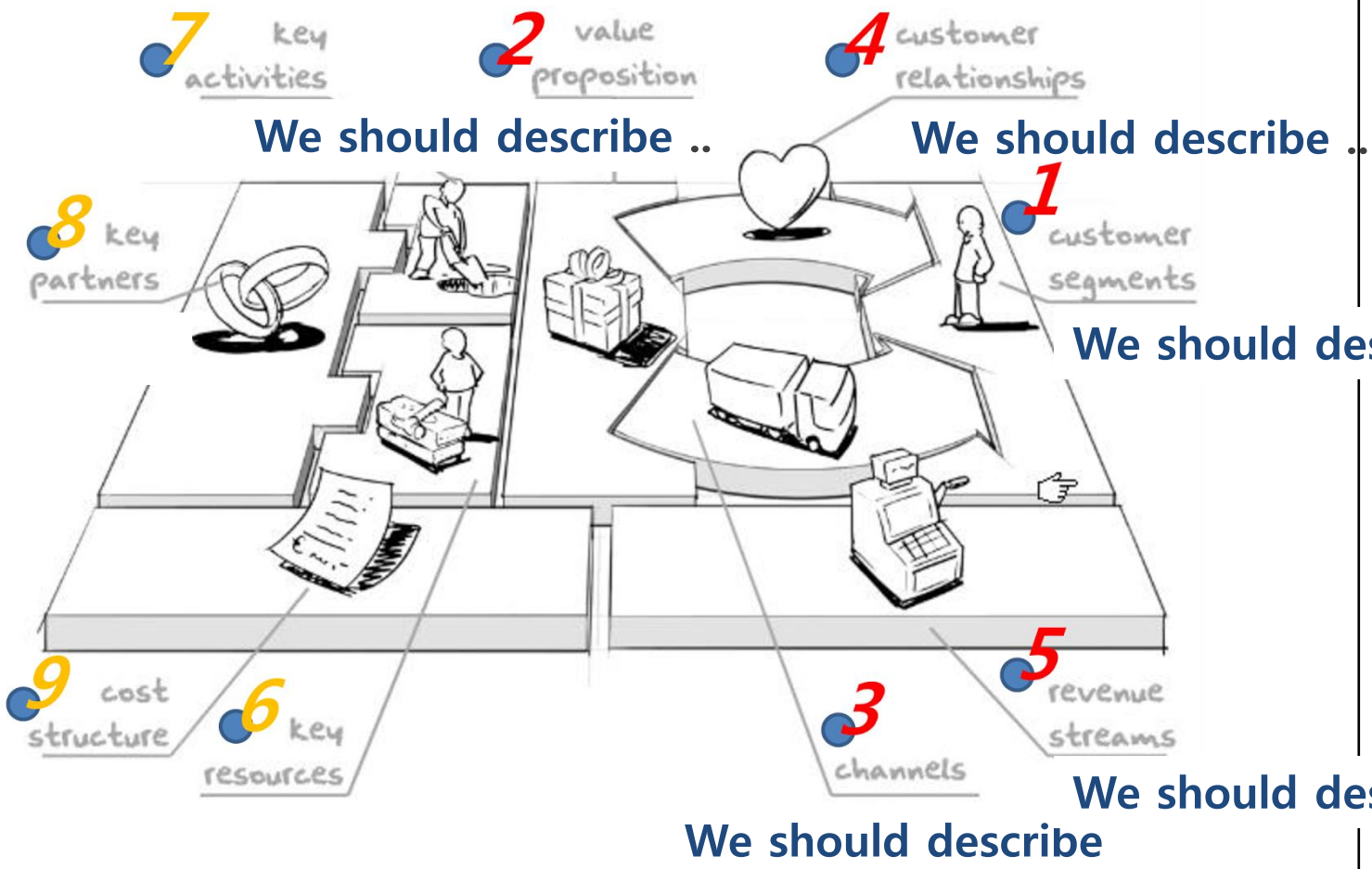
- Artificial intelligence technology
- Blockchain-based technology
- Data analysis and processing solutions such as big data analysis and RPA
- VR, AR, or Other else.

Business model and revenue structure

- Subscription method (paid billing model / free traffic method)
- Advertising (traffic) method
- Blockchain-based method (generating own tokens, etc.)
- Based on usage fee (cloud service, etc.)

Our Business Model is…

“Renewal” of existing Service



We should describe ..

We should describe ..

We should describe

We should describe

We should describe

Starting point : User and Target setting

What is User’s problem or pain point?

What do online shopping mall consumer feel uncomfortable about?

Starting point : User and Target setting

What is User’s problem or pain point?

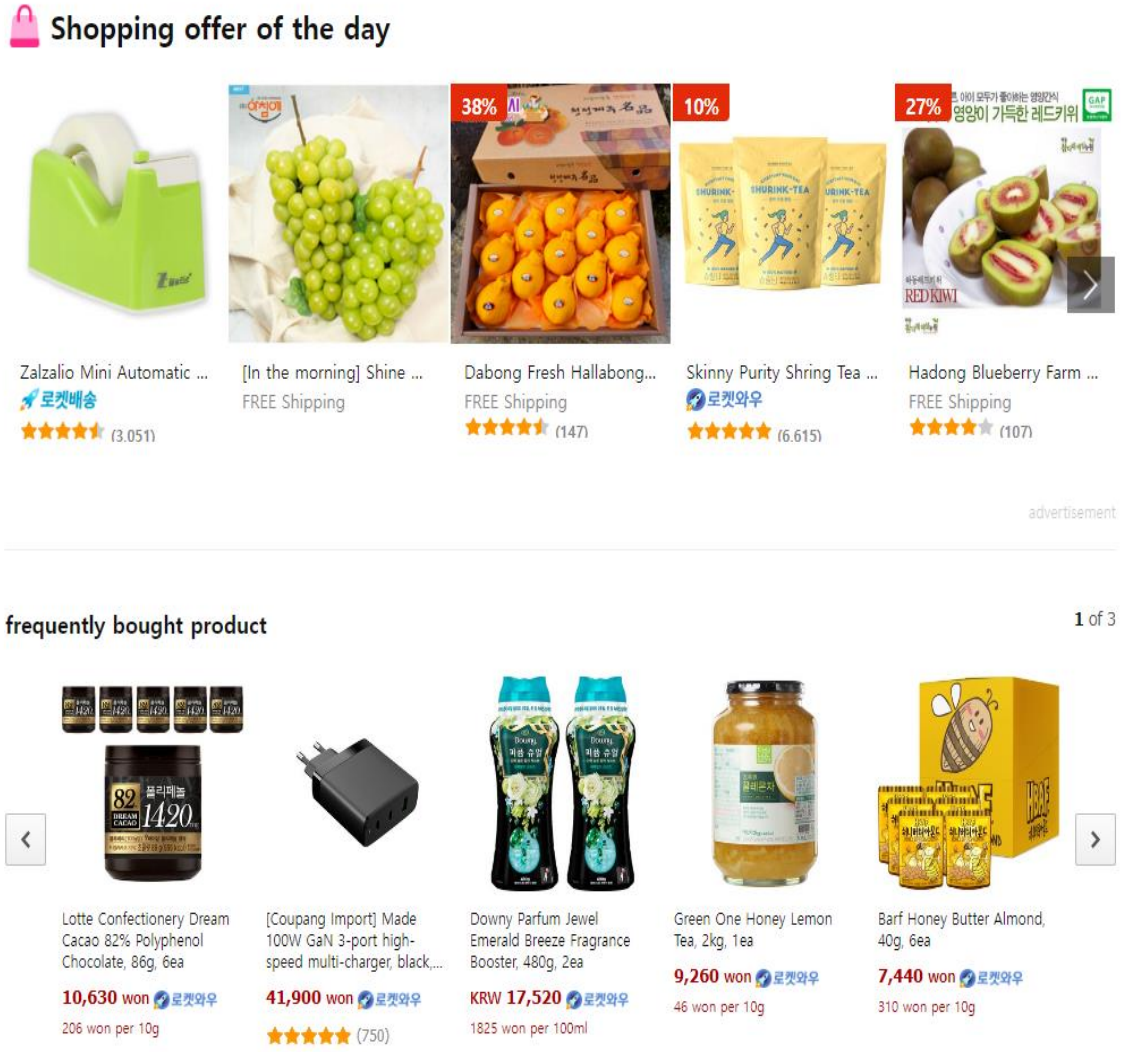
What do online shopping mall providers feel uncomfortable about?

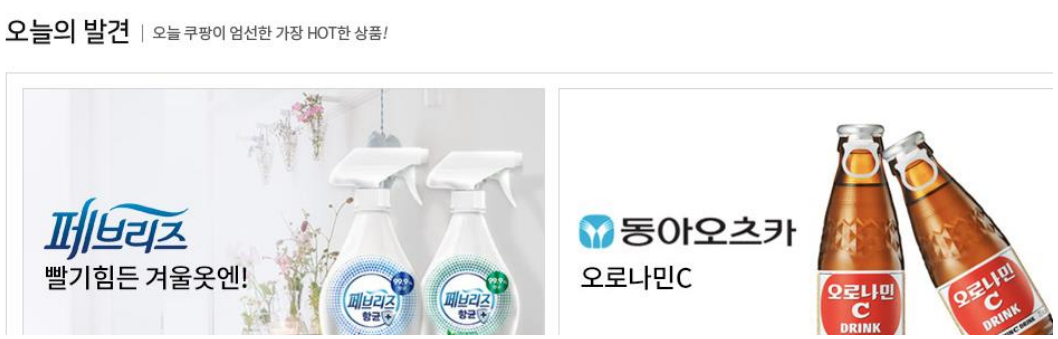
Starting point : User and Target setting

What is User’s problem or pain point? : Coupang’s case

Starting point : User and Target setting

What is User's problem or pain point? : Coupang

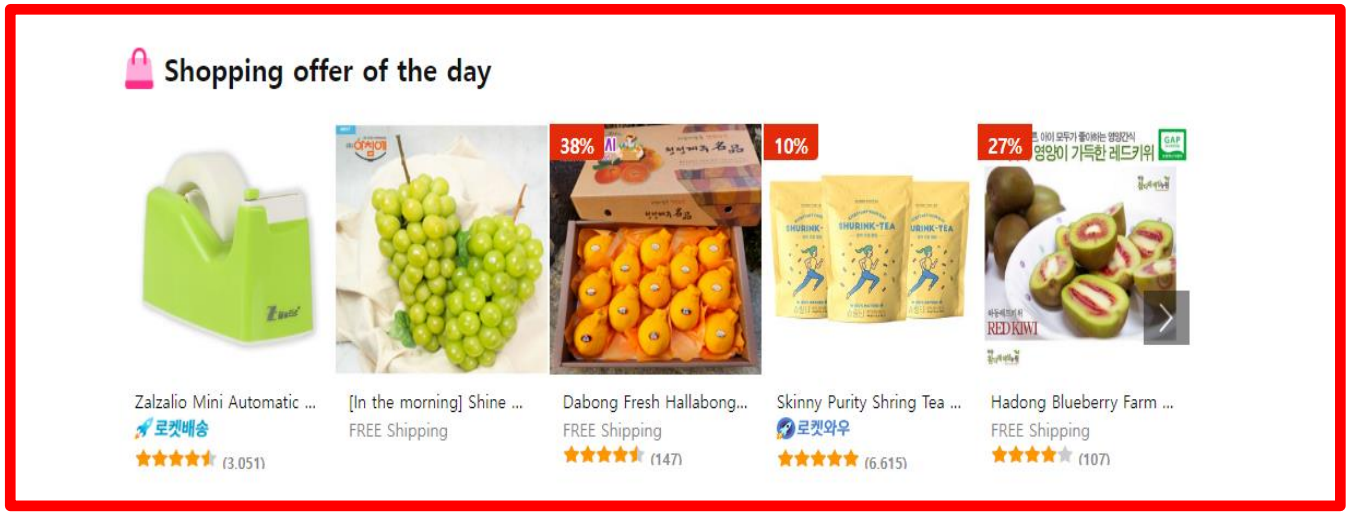




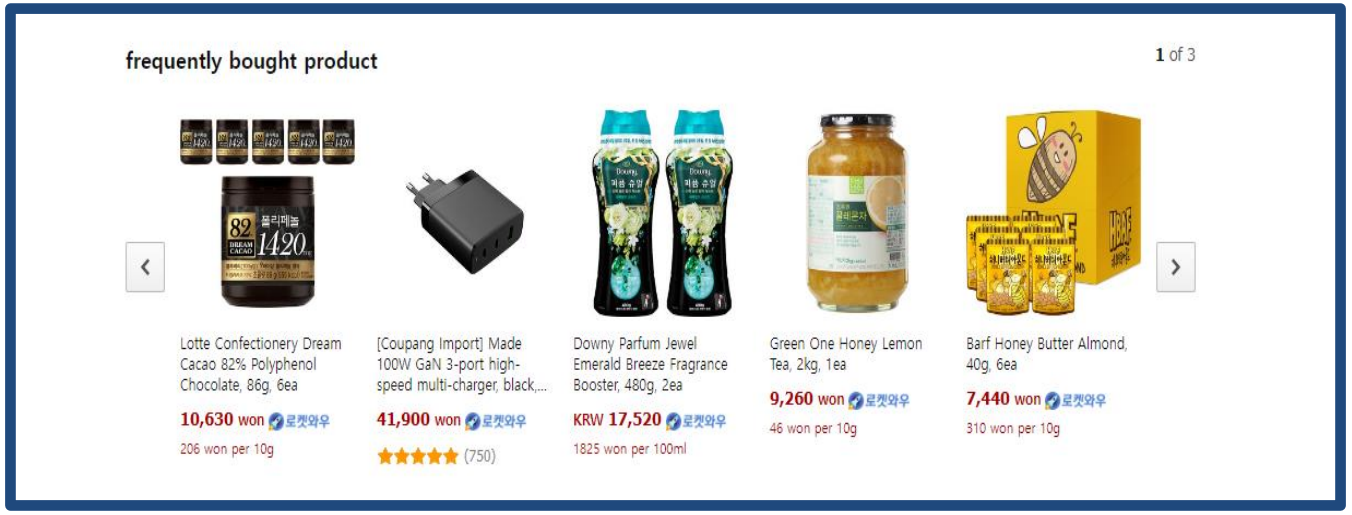
Starting point : User and Target setting

What do you think is the difference between Section A and Section B?

A



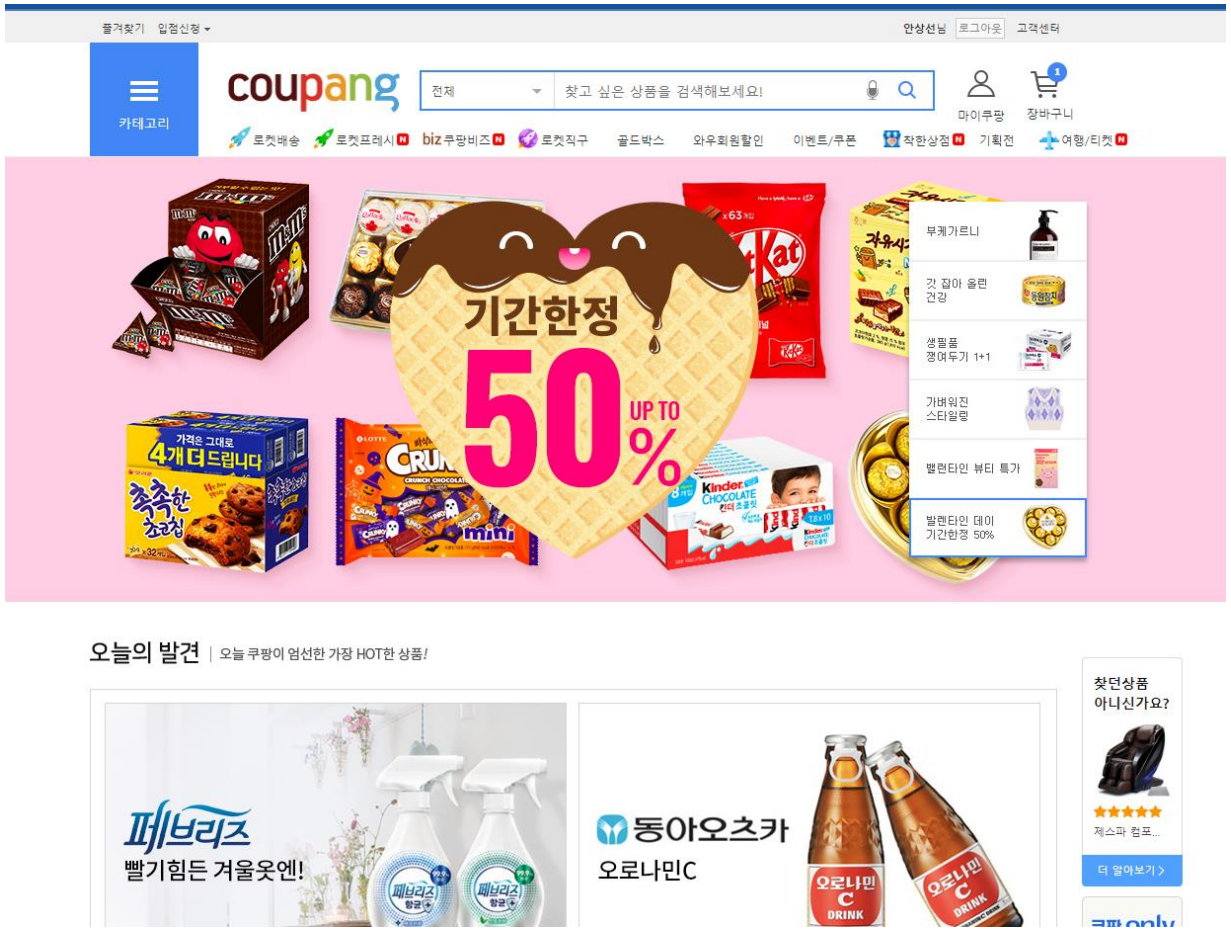
B



Starting point : User and Target setting

What do you think is the difference between Section A and Section B?

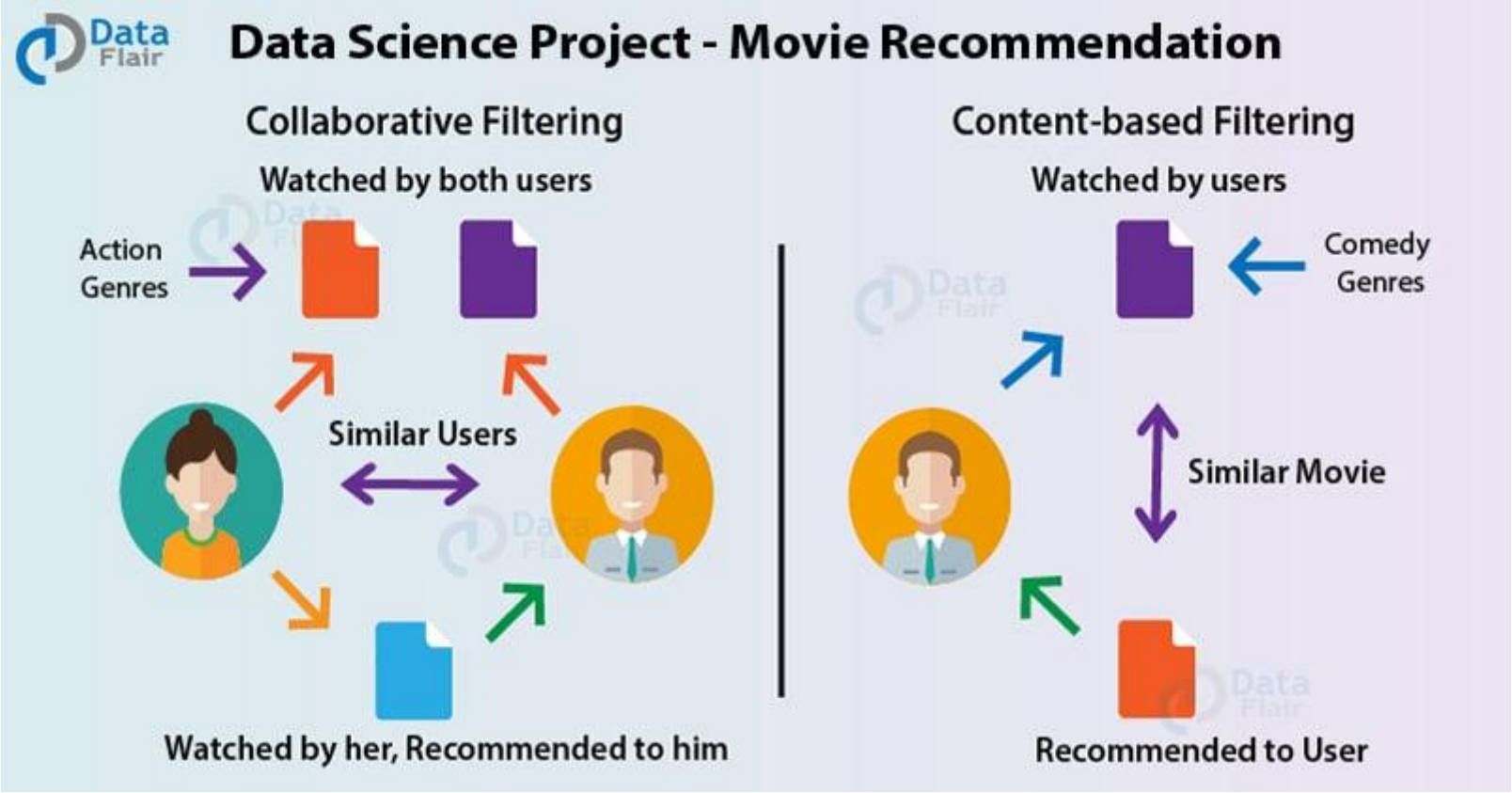
Actual web-page(recorded video)



https://youtu.be/DVsrsA87Y4o

Starting point : User and Target setting

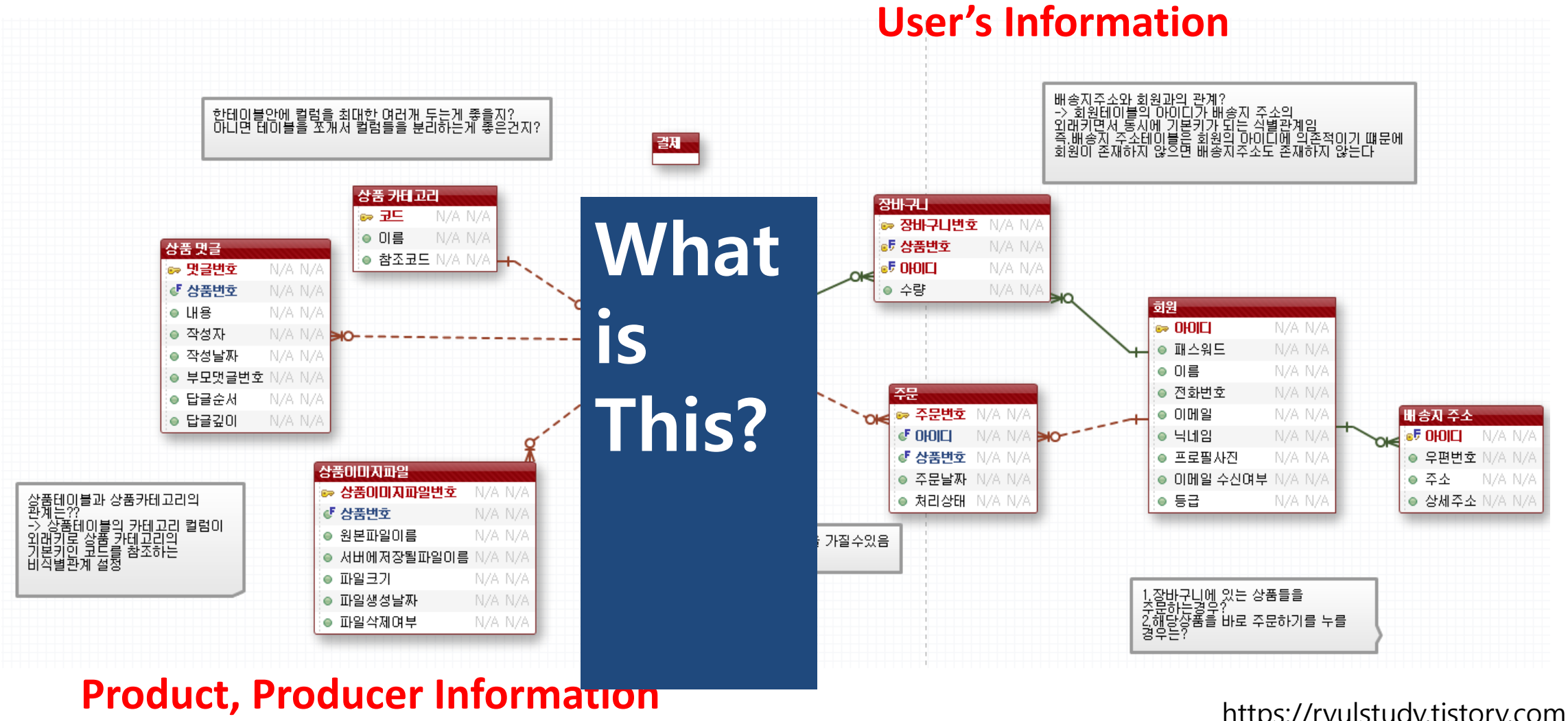
It’s the recommendation system



https://data-flair.training/blogs/data-science-r-movie-recommendation/

Starting point : User and Target setting

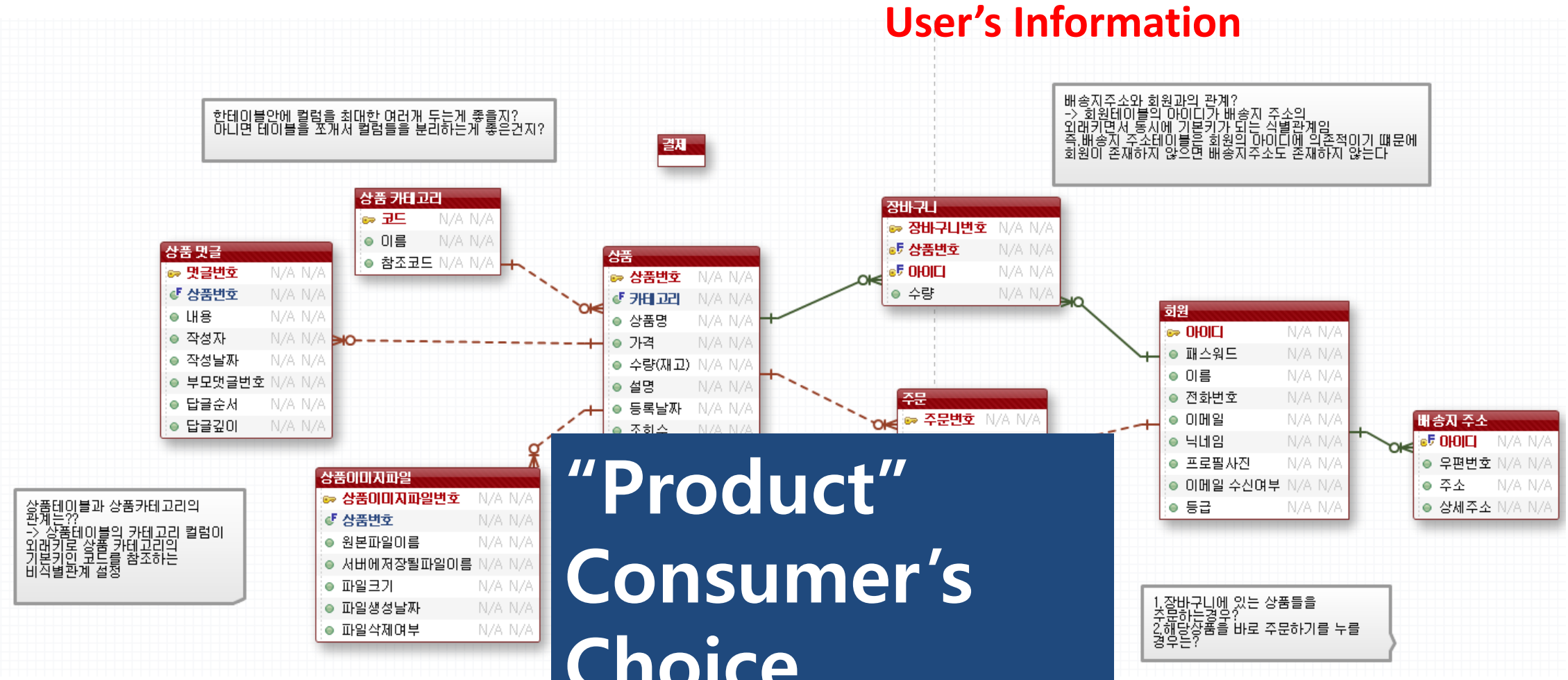
It’s the **Relational Database Structure**



https://ryulstudy.tistory.com/48/

Starting point : User and Target setting

It’s the **Relational Database Structure**



“Product”
Consumer’s Choice

https://ryulstudy.tistory.com/48/

Starting point : User and Target setting

It’s the Incentive Designed model

I don't even know what I'll buy but Coupang (shopping mall) knows this!

The longer you stay at the mall, the better Coupang will know you!

Starting point : User and Target setting

It’s the Incentive Designed model

I don't even know what I'll buy but Apps know this!

The longer you stay at the Apps, the better Apps will know you!

How to use ChatGPT for Making Advertisement

Making #Hashtags for instagram

Give a unit that people interested in fashion would like as hashtags.

Overview Documentation Examples Playground Upgrade Help Reor

Get started

Enter an instruction or select a preset, and watch the API respond with a completion that attempts to match the context or pattern you provided.

You can control which model completes your request by changing the model.

KEEP IN MIND

- Use good judgment when sharing outputs, and attribute them to your name or company. Learn more.
- Requests submitted to our models may be used to train and improve future models. Learn more.
- Our default models' training data cuts off in 2021, so they may not have knowledge of current events.

Playground

Load a preset... Save View code Share ...

Give a unit that people interested in fashion would like as hashtags.

#StyleInspo #Fashionista #FashionBlogger #OOTD #StyleBlogger #FashionTrends #StyleGoals #FashionWeek

#StyleInspo #Fashionista #FashionBlogger #OOTD #StyleBlogger #FashionTrends #StyleGoals #FashionWeek

Looking for ChatGPT? Try it now

Mode

Model

text-davinci-003

Temperature 0.7

Maximum length 256

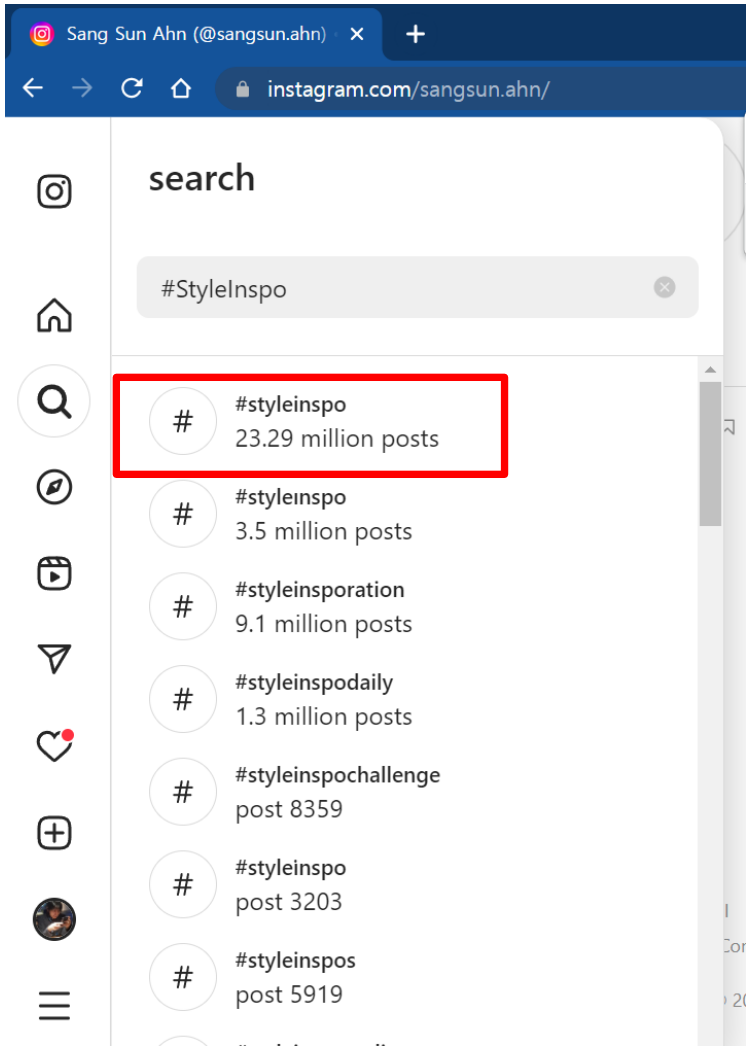
Stop sequences

Enter sequence and press Tab

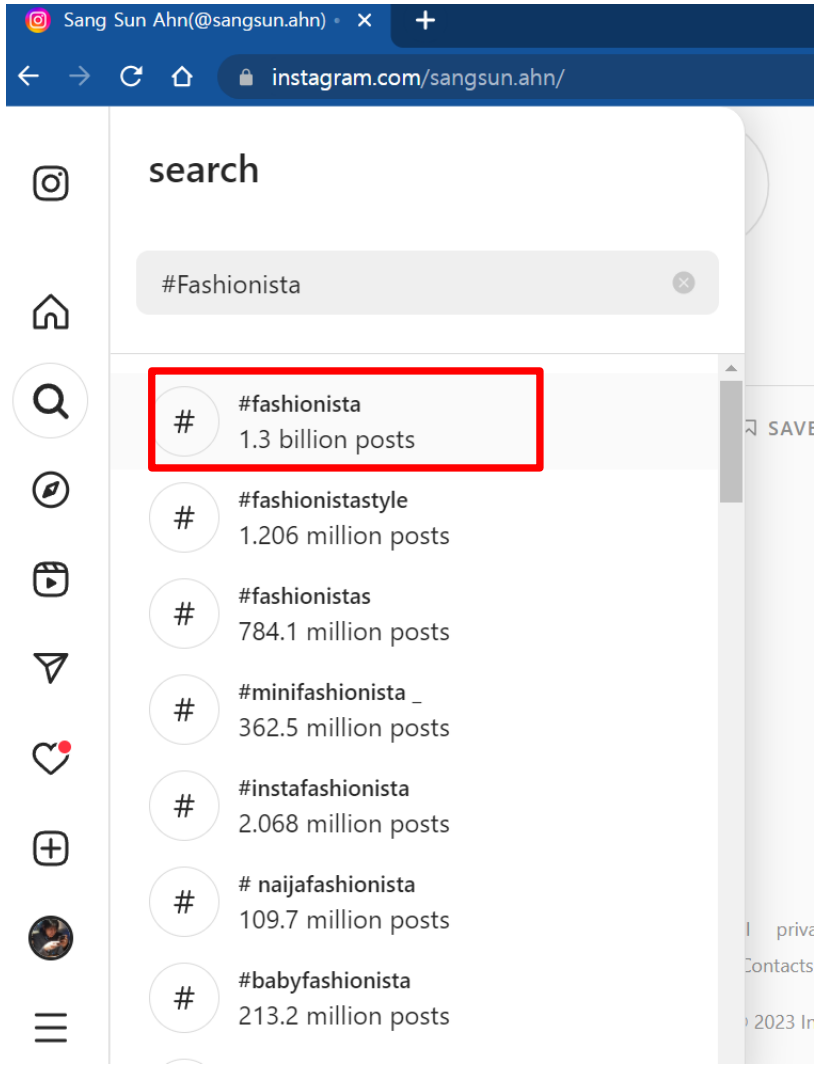
Top P 1

How to use ChatGPT for Making Advertisement

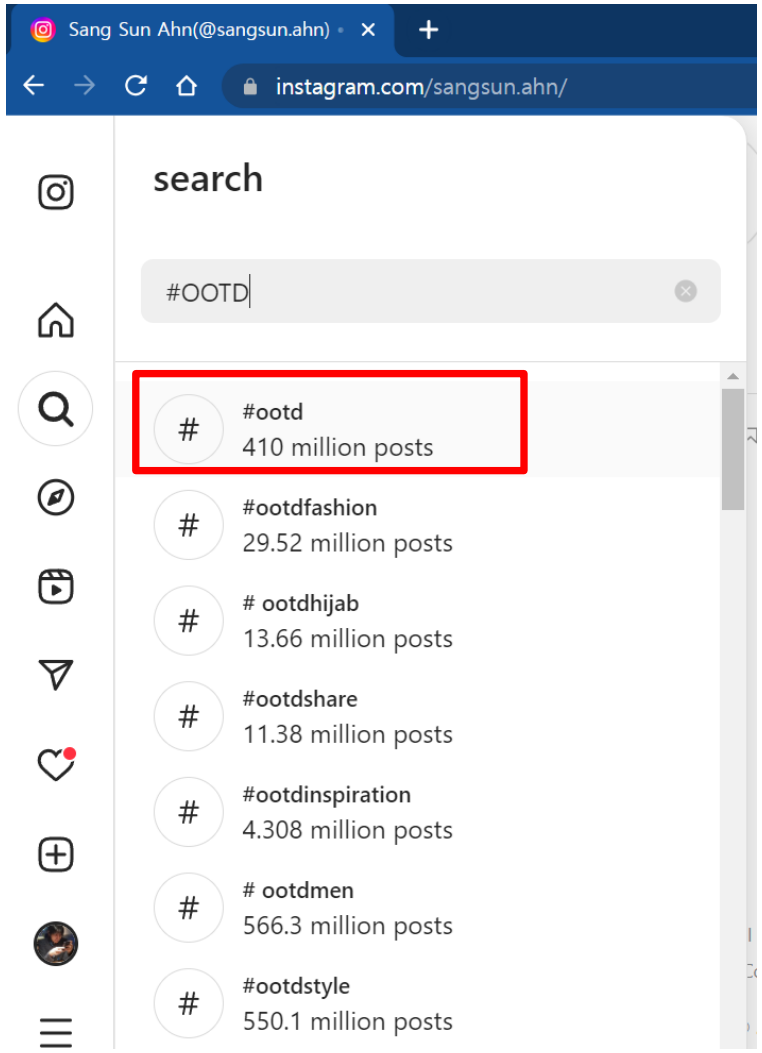
#StyleInspo : 23.29million



#Fashionista : 1.3billion



#OOTD : 410 million



How to use ChatGPT for Making Advertisement

Can you get me a picture of mode that goes with the #STYLELNSPO hashtag?

Get started

Enter an instruction or select a preset, and watch the API respond with a completion that attempts to match the context or pattern you provided.

You can control which model completes your request by changing the model.

KEEP IN MIND

- Use good judgment when sharing outputs, and attribute them to your name or company. Learn more.
- Requests submitted to our models may be used to train and improve future models. Learn more.
- Our default models' training data cuts off in 2021, so they may not have

Playground

Load a preset...

Save

Can you get me a picture of mode that goes with the #STYLELNSPO hashtag?

Here is a picture of a model wearing a modern, street-style inspired outfit that goes with the #STYLEINSPO hashtag:

![alt text]
(https://i.pinimg.com/originals/a4/2a/38/a42a38c9d1af0f56214a9c9f7ff6056d.jpg)

How to use ChatGPT for Making Advertisement

Can you get me a picture of mode that goes with the #STYLELNSPO hashtag?

This XML file does not appear to have any style information associated with it. The document tree is shown below.


```
▼<Error>
  <Code>AccessDenied</Code>
  <Message>Access Denied</Message>
  <RequestId>WXB7J7Q9QP674ZPF</RequestId>
  <HostId>s9crR9K5HiUPDCoSQB060NNzxM0hhjuv+1VfaH8y5+BtF9IaoU/Q5qnf4vSvNT4xrPkAoIwZigI=</HostId>
</Error>
```


It is still at a level where only “text” results can be clearly displayed.

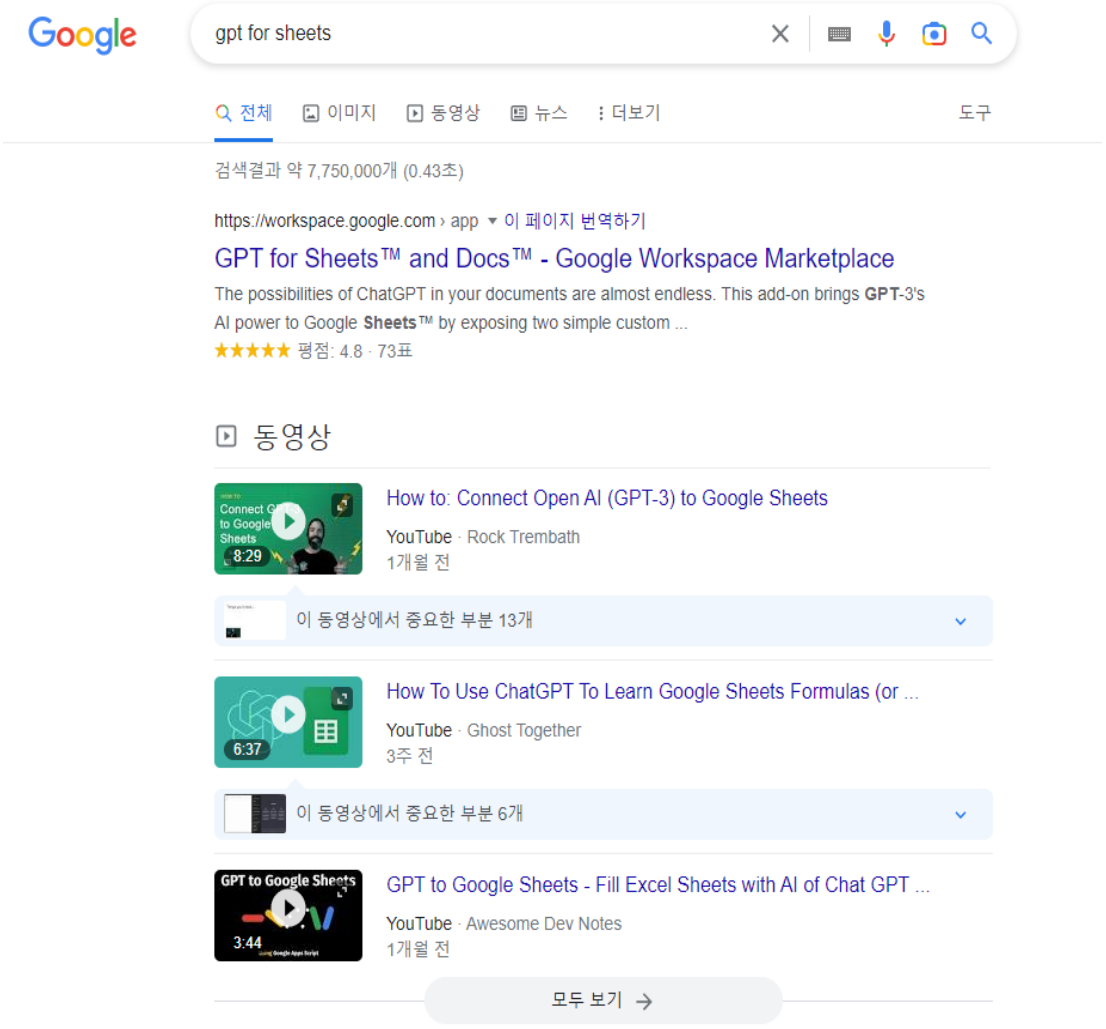
PART #2

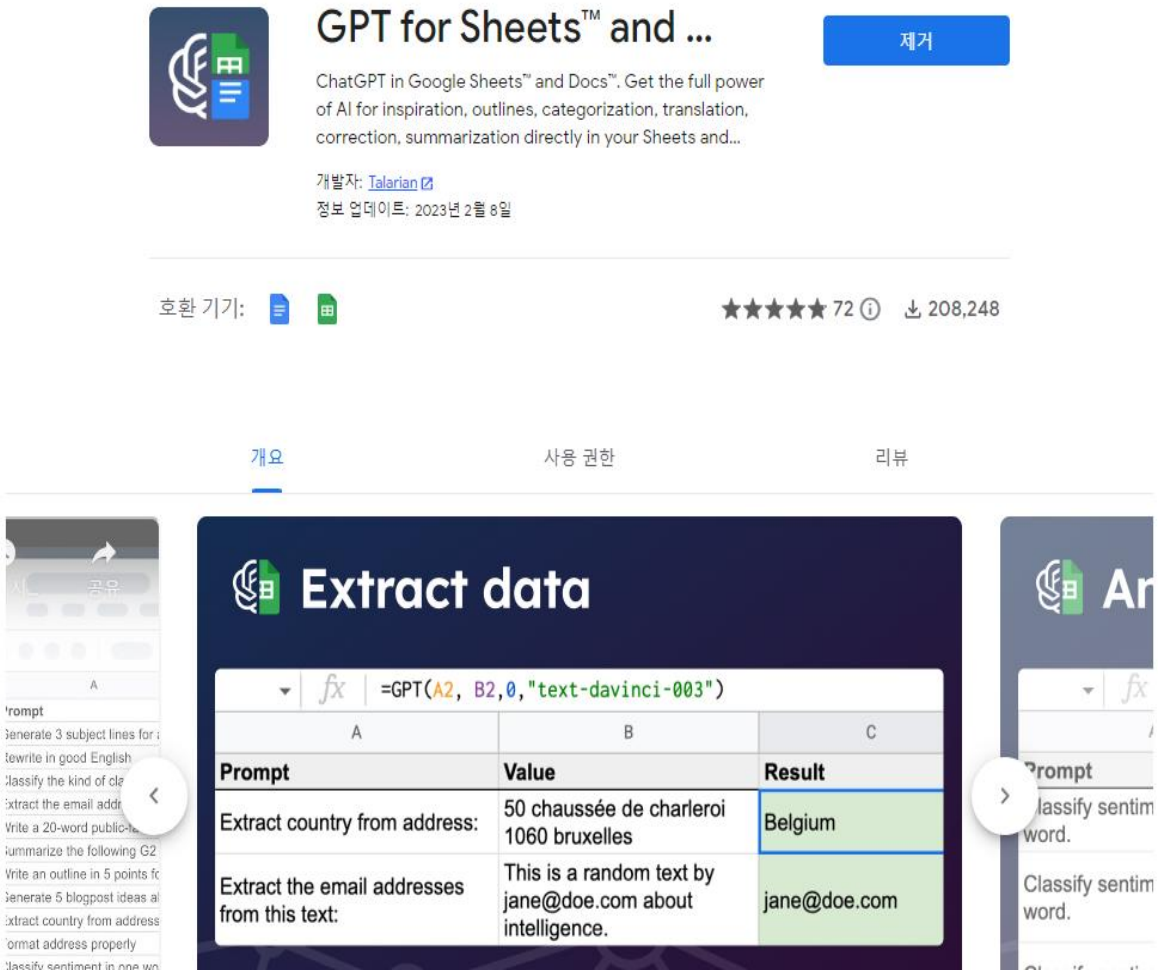
Using GPT with No-Code

https://money-robo.com/datajournalism/

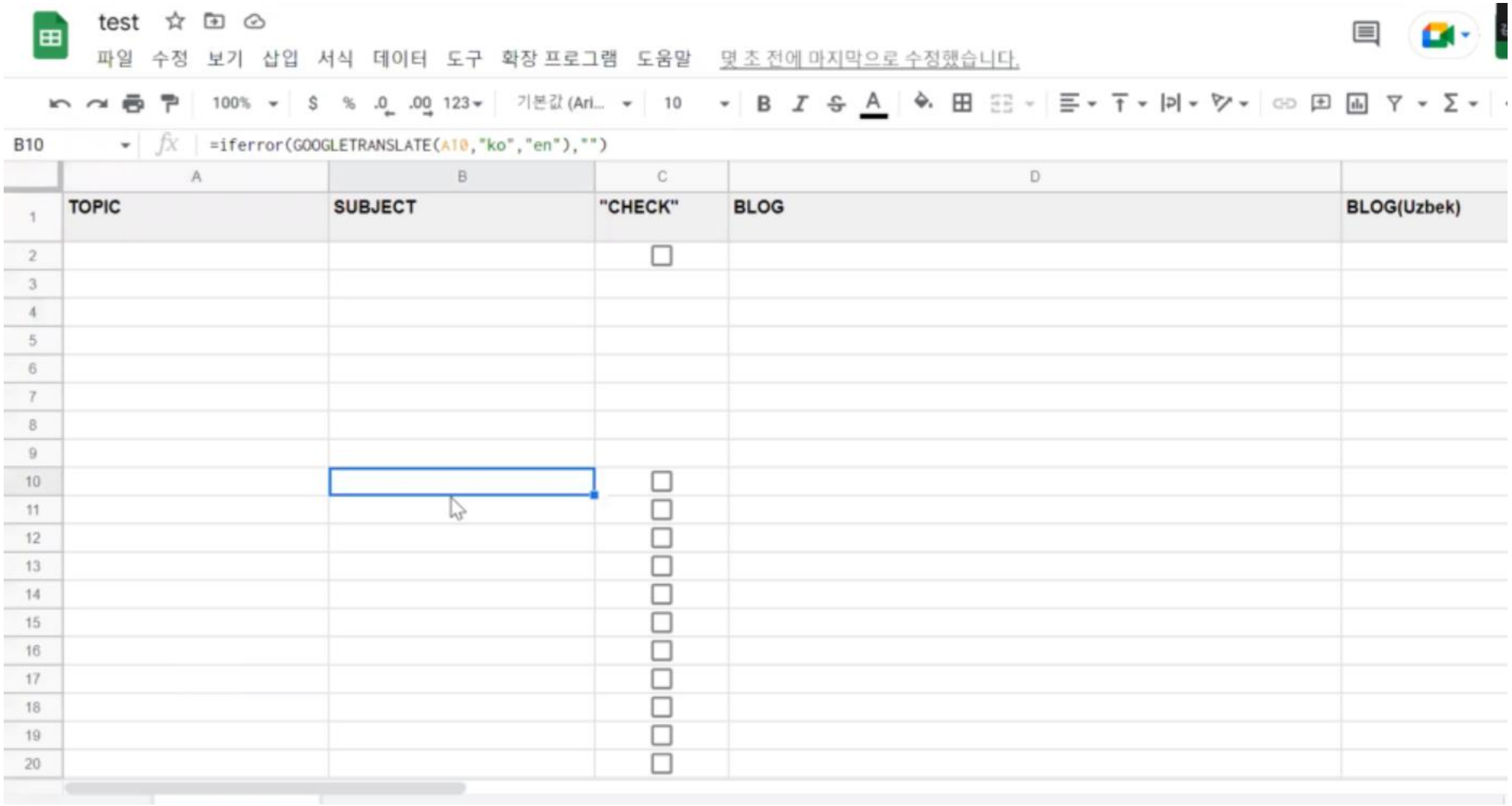
01_Settings

1. GPT for sheets





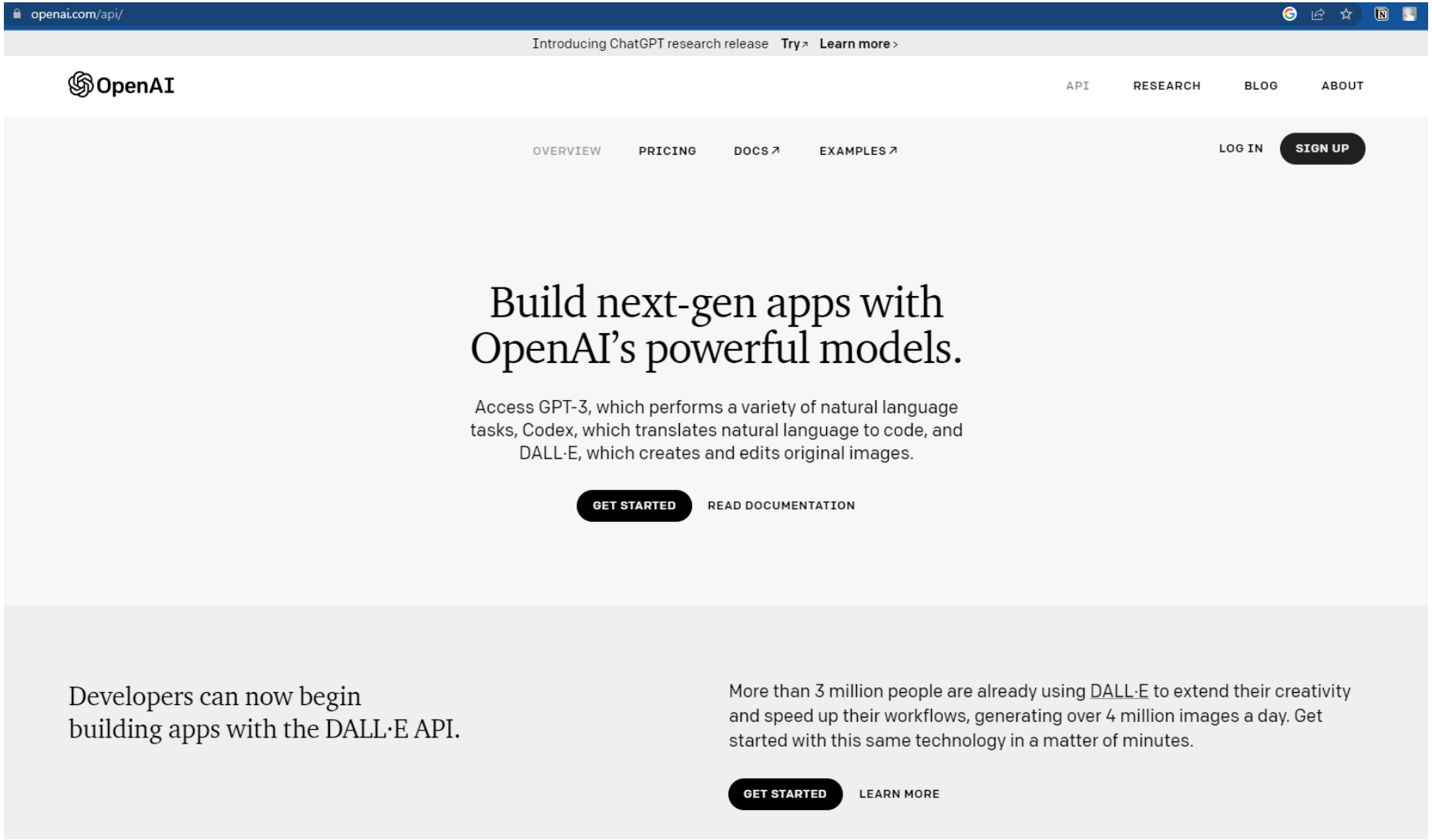
00_See Demo Video



https://youtu.be/6peimZlpq6s

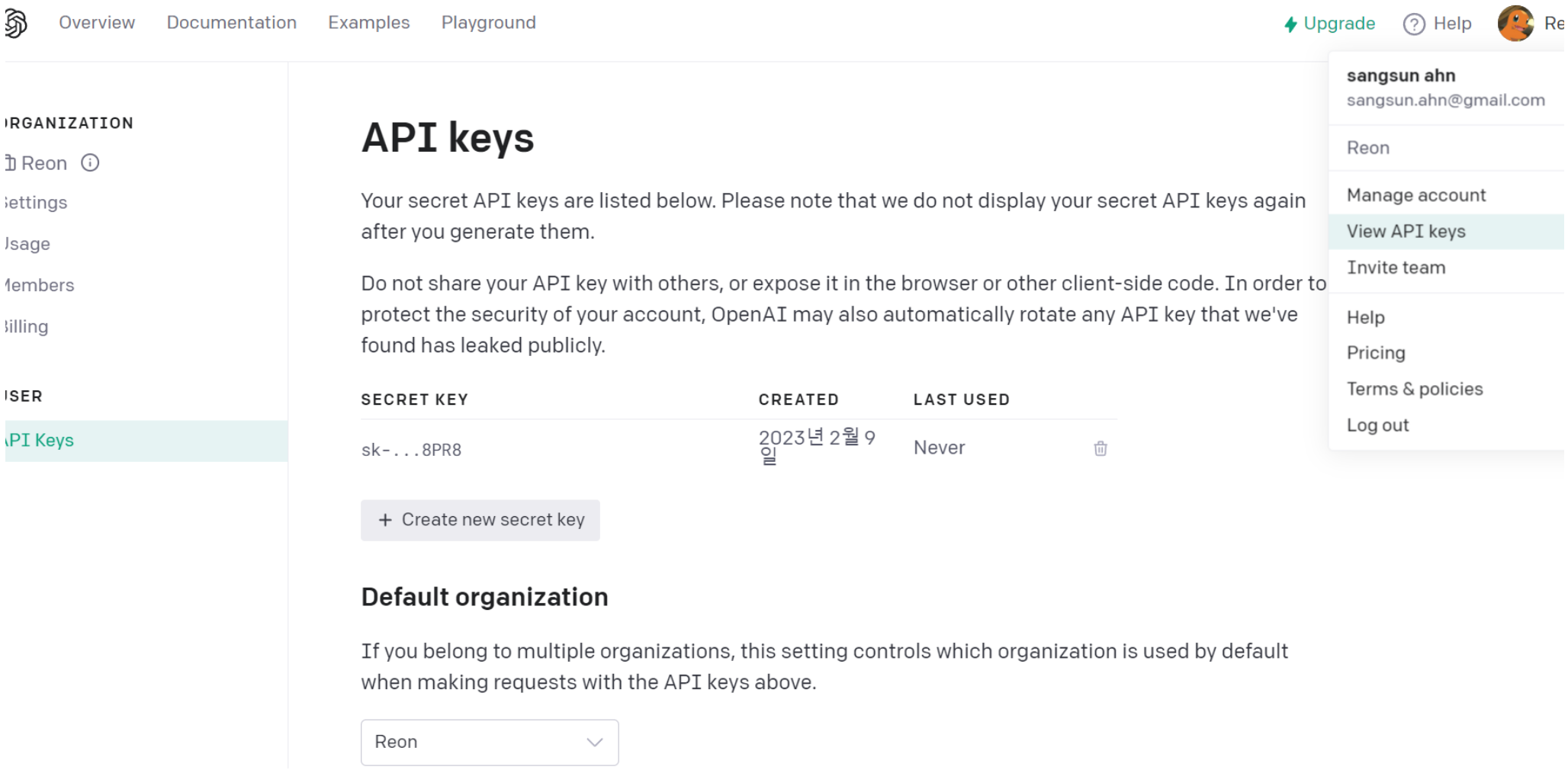
01_Settings

1. Sing UP Open API & Get your API



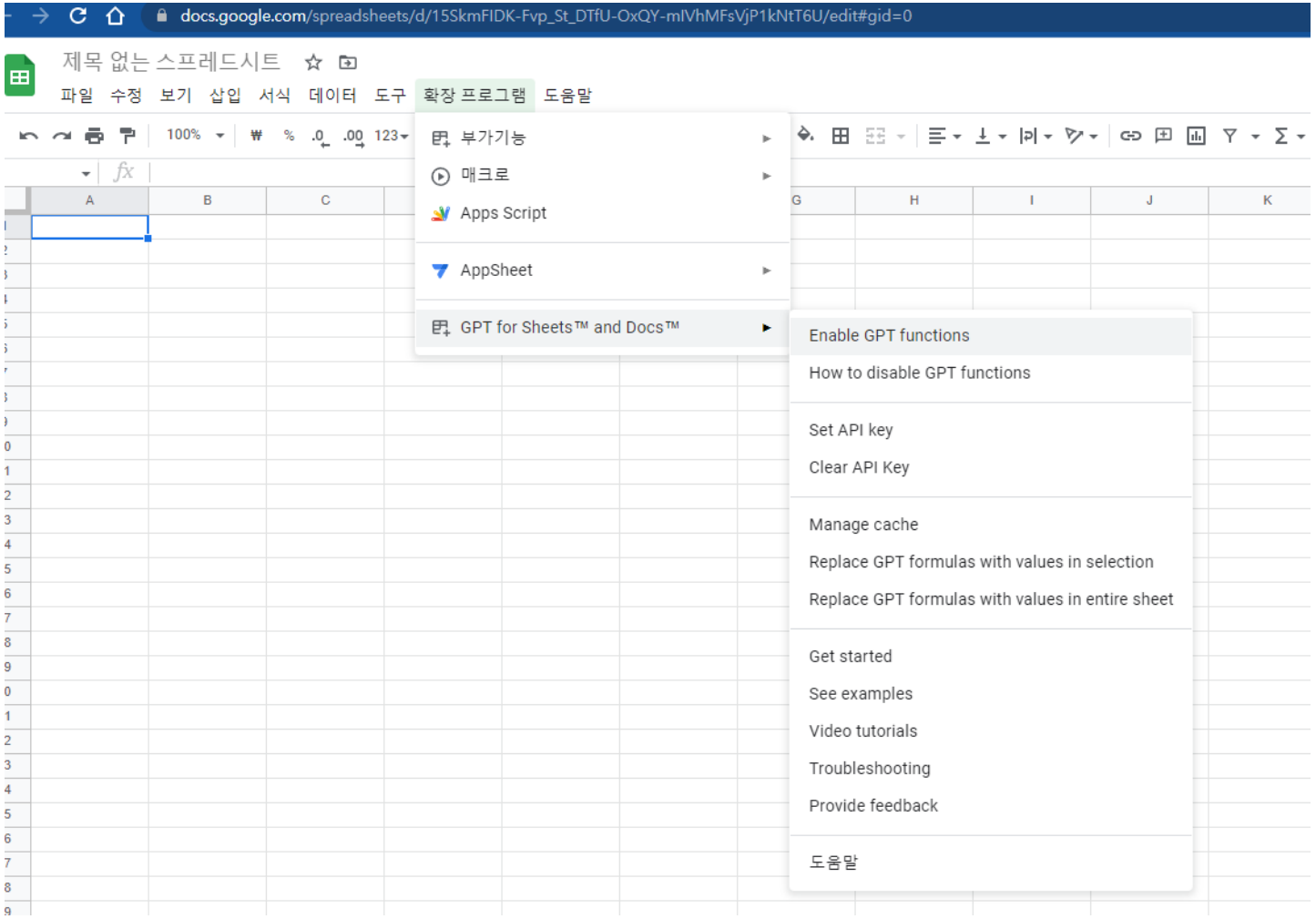
01_Settings

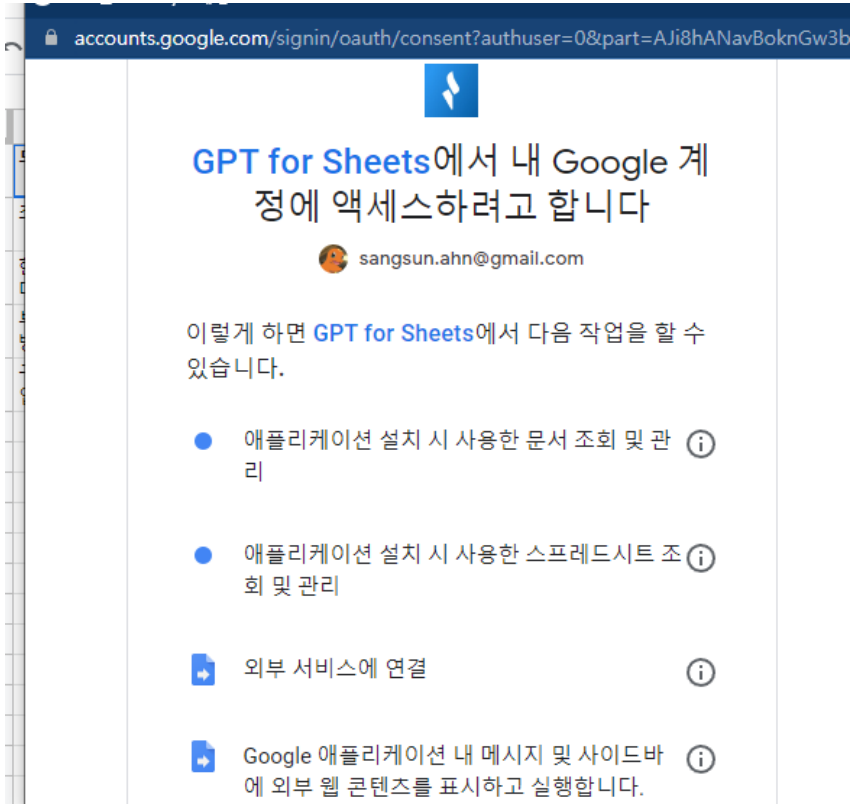
2. Get API Keys



01_Settings

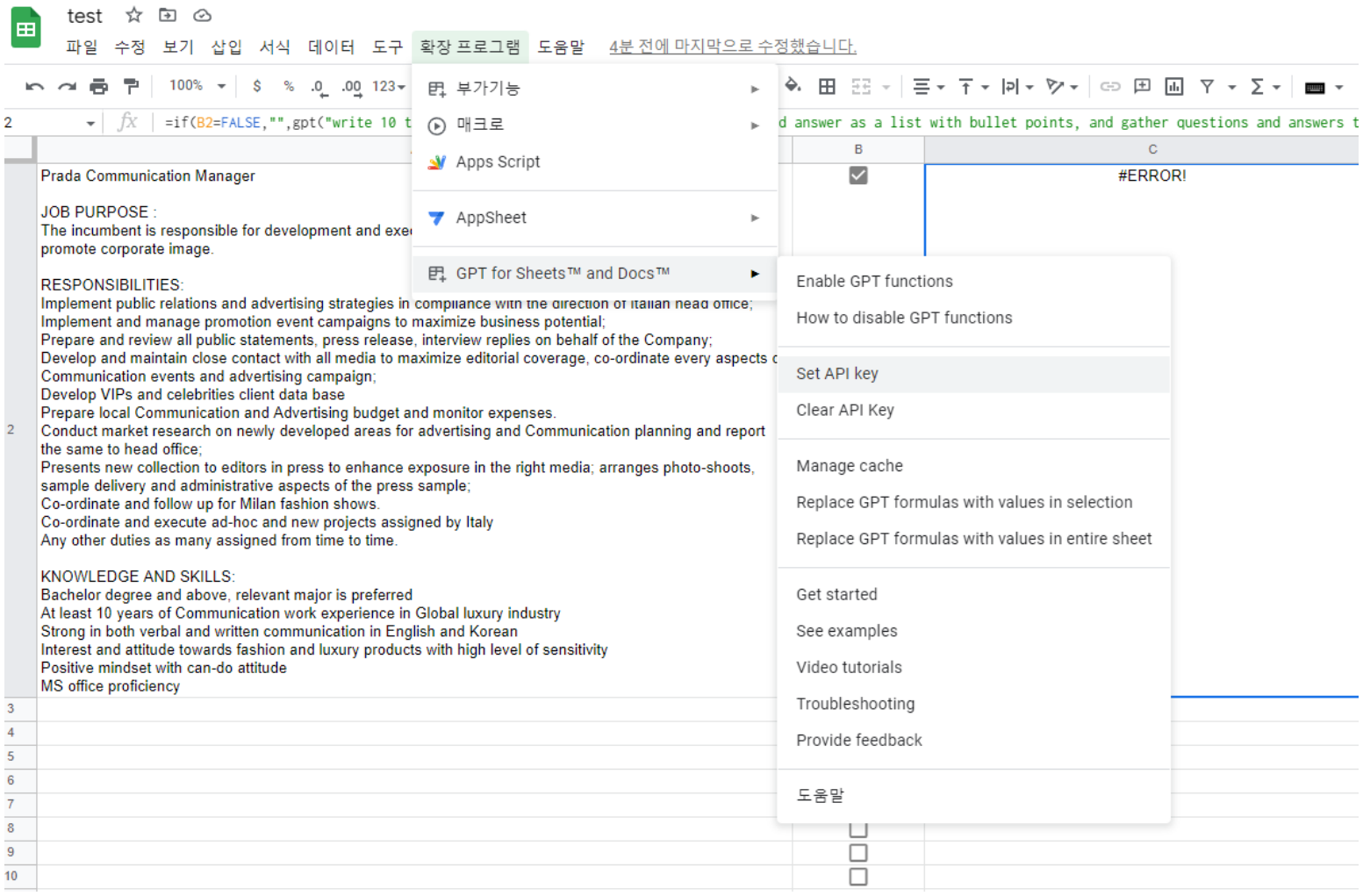
3. GPT for sheets





01_Settings

3. Get API Keys



02_Practice

3. Google Sheet

test

파일 수정 보기 삽입 서식 데이터 도구 확장 프로그램 도움말 2분 전에 마지막으로 수정했습니다.

TOEFL imtihonidan qanday qilib yaxshi o'tish kerak

TOPIC	SUBJECT	"CHECK"	BLOG	BLOG(Uzbek)	CHECK_SUMMARY	SUMMARY(I
TOEFL imtihonidan qanday qilib yaxshi o'tish kerak	How to go well with the TOEFL exam	☑	# How to go well with the TOEFL Exam Taking the Test of English as a Foreign Language (TOEFL) can be a daunting prospect for many. But with the right preparation, you can make sure you get the best score possible. Here are some tips to help you do well on the TOEFL exam: ## Prepare in Advance * Set aside an appropriate amount of time to study for the exam. * Use a variety of resources, such as textbooks, practice tests, and online resources. * Familiarize yourself with the exam format, structure, and types of questions. ## Practice Test-Taking Skills * Take practice tests to get comfortable with the exam structure and timing. * Develop effective test-taking strategies, such as reading all the answer choices before making a selection. * Learn how to manage your time during the exam. ## Review Content * Review the topics that will be	# TOEFL imtihonida qanday yaxshi borish mumkin Ingliz tilini chet til sifatida olish (TOEFL) ko'pchilik uchun dahshatli istiqbol bo'lishi mumkin. Ammo to'g'ri tayyorgarlik bilan siz eng yaxshi ball olishingizga ishonch hosil qilishingiz mumkin. TOEFL imtihonida yaxshi bajarishda yordam beradigan ba'zi maslahatlar: ## oldindan tayyorlang * Imtihon uchun o'qish uchun tegishli vaqt ajrating. * Darsliklar, amaliy testlar va onlayn manba kabi turli xil resurslardan foydalaning. * Imtihon formati, tuzilishi va savollari bilan tanishing. ## test sinovlarini o'tkazish * Imtihon tuzilishi va vaqtni qulaylashtirish uchun amaliyot sinovlarini o'tkazing. * Tanlovni boshlashdan oldin barcha javoblarni tanlashda samarali sinov strategiyasini ishlab chiqish. * Imtihon paytida vaqtingizni qanday boshqarishni o'rganing. ## Tarkib * Bo'lgan mavzularni ko'rib chiqing	☑	Prepare in a test-taking sk content to do exam.

https://docs.google.com/spreadsheets/d/1ZxQfc2ZVWJM8aBRkMpglrhIdDIEO2GFg6I1rqVkJsV4/edit?usp=sharing

02_Practice

3. Google Sheet

test

파일 수정 보기 삽입 서식 데이터 도구 확장 프로그램 도움말 2분 전에 마지막으로 수정했습니다.

TOEFL imtihonidan qanday qilib yaxshi o'tish kerak

TOPIC	SUBJECT	"CHECK"	BLOG	BLOG(Uzbek)	CHECK_SUMMARY	SUMMARY(I
TOEFL imtihonidan qanday qilib yaxshi o'tish kerak	How to go well with the TOEFL exam	☑	# How to go well with the TOEFL Exam Taking the Test of English as a Foreign Language (TOEFL) can be a daunting prospect for many. But with the right preparation, you can make sure you get the best score possible. Here are some tips to help you do well on the TOEFL exam: ## Prepare in Advance * Set aside an appropriate amount of time to study for the exam. * Use a variety of resources, such as textbooks, practice tests, and online resources. * Familiarize yourself with the exam format, structure, and types of questions. ## Practice Test-Taking Skills * Take practice tests to get comfortable with the exam structure and timing. * Develop effective test-taking strategies, such as reading all the answer choices before making a selection. * Learn how to manage your time during the exam. ## Review Content * Review the topics that will be	# TOEFL imtihonida qanday yaxshi borish mumkin Ingliz tilini chet til sifatida olish (TOEFL) ko'pchilik uchun dahshatli istiqbol bo'lishi mumkin. Ammo to'g'ri tayyorgarlik bilan siz eng yaxshi ball olishingizga ishonch hosil qilishingiz mumkin. TOEFL imtihonida yaxshi bajarishda yordam beradigan ba'zi maslahatlar: ## oldindan tayyorlang * Imtihon uchun o'qish uchun tegishli vaqt ajrating. * Darsliklar, amaliy testlar va onlayn manba kabi turli xil resurslardan foydalaning. * Imtihon formati, tuzilishi va savollari bilan tanishing. ## test sinovlarini o'tkazish * Imtihon tuzilishi va vaqtni qulaylashtirish uchun amaliyot sinovlarini o'tkazing. * Tanlovni boshlashdan oldin barcha javoblarni tanlashda samarali sinov strategiyasini ishlab chiqish. * Imtihon paytida vaqtingizni qanday boshqarishni o'rganing. ## Tarkib * Bo'lgan mavzularni ko'rib chiqing	☑	Prepare in a test-taking sk content to do exam.

https://docs.google.com/spreadsheets/d/1ZxQfc2ZVWJM8aBRkMpglrhIdDIEO2GFg6I1rqVkJsV4/edit?usp=sharing

02_Practice

4. Writing your topics

test

파일 수정 보기 삽입 서식 데이터 도구 확장 프로그램 도움말 6분 전에 마지막으로 수정했습니다.

A2 TOEFL imtihonidan qanday qilib yaxshi o'tish kerak

	A	B	C	D	
1	TOPIC	SUBJECT	"CHECK"	BLOG	BLOG(Uzbek)
2	TOEFL imtihonidan qanday qilib yaxshi o'tish kerak	How to go well with the TOEFL exam	☑	# How to go well with the TOEFL Exam Taking the Test of English as a Foreign Language (TOEFL) can be a daunting prospect for many. But with the right preparation, you can make sure you get the best score possible. Here are some tips to help you do well on the TOEFL exam: ## Prepare in Advance * Set aside an appropriate amount of time to study for the exam. * Use a variety of resources, such as textbooks, practice tests, and online resources. * Familiarize yourself with the exam format, structure, and types of questions. ## Practice Test-Taking Skills * Take practice tests to get comfortable with the exam structure and timing. * Develop effective test-taking strategies, such as reading all the answer choices before making a selection. * Learn how to manage your time during the exam. ## Review Content * Review the topics that will be	# TOEFL imtihonida qanday Ingliz tilini chet til sifatida oli mumkin. Ammo to'g'ri tayyo hosil qilishingiz mumkin. TO ba'zi maslahatlar: ## oldindan tayyorlang * Imtihon uchun o'qish uchu * Darsliklar, amaliy testlar va * Imtihon formati, tuzilishi va ## test sinovlarini o'tkazish * Imtihon tuzilishi va vaqtni * Tanlovni boshlashdan oldi strategiyasini ishlab chiqish. * Imtihon paytida vaqtingizn ## Tarkib * Bo'lgan mavzularni ko'rib
3					

02_Practice

5-1. Review Google Sheet(1)

test

파일 수정 보기 삽입 서식 데이터 도구 확장 프로그램 도움말 7분 전에 마지막으로 수정했습니다.

공유

100% $ % .0 .00 123 기본값 (Ari... 10

=iferror(GOOGLETRANSLATE(A2,"uz","en"),"")

	A	B	C	D	
1	TOPIC	SUBJECT	"CHECK"	BLOG	BLOG(Uzbek)
2	TOEFL imtihonidan qanday qilib yaxshi o'tish kerak	How to go well with the TOEFL exam	☑	# How to go well with the TOEFL Exam Taking the Test of English as a Foreign Language (TOEFL) can be a daunting prospect for many. But with the right preparation, you can make sure you get the best score possible. Here are some tips to help you do well on the TOEFL exam: ## Prepare in Advance * Set aside an appropriate amount of time to study for the exam. * Use a variety of resources, such as textbooks, practice tests, and online resources. * Familiarize yourself with the exam format, structure, and types of questions. ## Practice Test-Taking Skills * Take practice tests to get comfortable with the exam structure and timing. * Develop effective test-taking strategies, such as reading all the answer choices before making a selection. * Learn how to manage your time during the exam. ## Review Content * Review the topics that will be	# TOEFL imtihonida qanday ya Ingliz tilini chet til sifatida olish mumkin. Ammo to'g'ri tayyorga hosil qilishingiz mumkin. TOEF ba'zi maslahatlar: ## oldindan tayyorlang * Imtihon uchun o'qish uchun te * Darsliklar, amaliy testlar va or * Imtihon formati, tuzilishi va sa ## test sinovlarini o'tkazish * Imtihon tuzilishi va vaqtni qula * Tanlovni boshlashdan oldin ba strategiyasini ishlab chiqish. * Imtihon paytida vaqtingizni qa ## Tarkib * Bo'lgan mavzularni ko'rib chiq
3					

02_Practice

5-2 Review Google Sheet(2)

test

파일 수정 보기 삽입 서식 데이터 도구 확장 프로그램 도움말 8분 전에 마지막으로 수정했습니다.

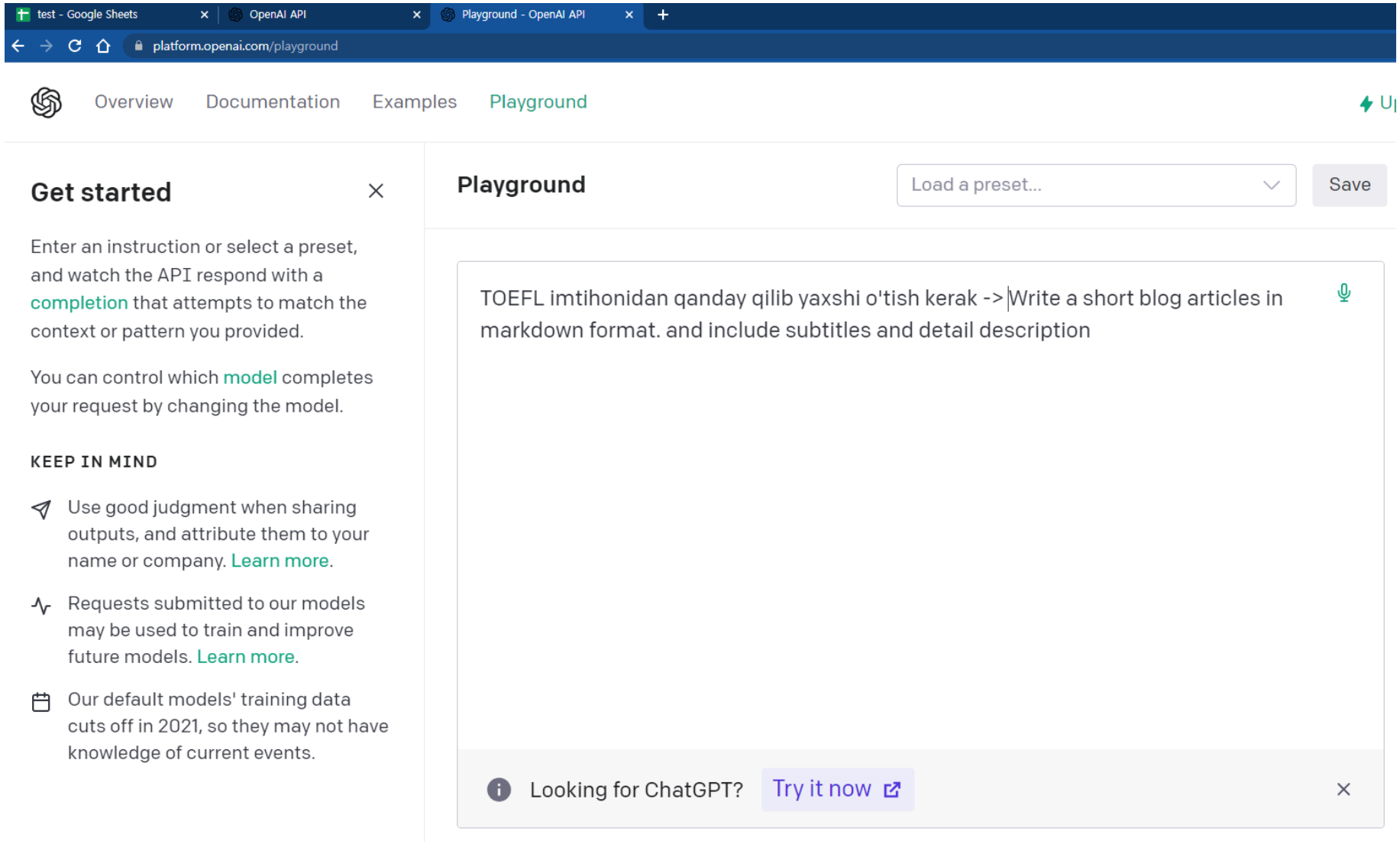
공유

D2 =if(OR(OR(ISBLANK(A2),B2=""),C2=FALSE),"", GPT("Write a short blog articles in markdown format. and include subtitles and detail description,

	B	C	D	E
1	**SUBJECT**	**"CHECK"**	**BLOG**	**BLOG(Uzbek)**
2	How to go well with the TOEFL exam	☑	# How to go well with the TOEFL Exam Taking the Test of English as a Foreign Language (TOEFL) can be a daunting prospect for many. But with the right preparation, you can make sure you get the best score possible. Here are some tips to help you do well on the TOEFL exam: ## Prepare in Advance * Set aside an appropriate amount of time to study for the exam. * Use a variety of resources, such as textbooks, practice tests, and online resources. * Familiarize yourself with the exam format, structure, and types of questions. ## Practice Test-Taking Skills * Take practice tests to get comfortable with the exam structure and timing. * Develop effective test-taking strategies, such as reading all the answer choices before making a selection. * Learn how to manage your time during the exam. ## Review Content * Review the topics that will be	# TOEFL imtihonida qanday yaxshi borish mumkin Ingliz tilini chet til sifatida olish (TOEFL) ko'pchilik uchun dahshatli mumkin. Ammo to'g'ri tayyorgarlik bilan siz eng yaxshi ball olishing hosil qilishingiz mumkin. TOEFL imtihonida yaxshi bajarishda yorc ba'zi maslahatlar: ## oldindan tayyorlang * Imtihon uchun o'qish uchun tegishli vaqt ajrating. * Darsliklar, amaliy testlar va onlayn manba kabi turli xil resurslard * Imtihon formati, tuzilishi va savollari bilan tanishing. ## test sinovlarini o'tkazish * Imtihon tuzilishi va vaqtni qulaylashtirish uchun amaliyot sinovlar * Tanlovni boshlashdan oldin barcha javoblarni tanlashda samaral strategiyasini ishlab chiqish. * Imtihon paytida vaqtingizni qanday boshqarishni o'rganing. ## Tarkib * Bo'lgan mavzularni ko'rib chiqing
3				

02_Practice

5-2 Review Google Sheet(2) : Use the interface as a "google sheet"



02_Practice

5-2 Review Google Sheet(3) : Translation

test

파일 수정 보기 삽입 서식 데이터 도구 확장 프로그램 도움말 13분 전에 마지막으로 수정했습니다.

공유

100% $ % .0 .00 123 기본값 (Ari... 10

=IFERROR(GOOGLETRANSLATE(D2,"en","UZ"),"")

C	D	E	F
"CHECK"	BLOG	BLOG(Uzbek)	CHECK_SUMMARY
☑	# How to go well with the TOEFL Exam Taking the Test of English as a Foreign Language (TOEFL) can be a daunting prospect for many. But with the right preparation, you can make sure you get the best score possible. Here are some tips to help you do well on the TOEFL exam: ## Prepare in Advance * Set aside an appropriate amount of time to study for the exam. * Use a variety of resources, such as textbooks, practice tests, and online resources. * Familiarize yourself with the exam format, structure, and types of questions. ## Practice Test-Taking Skills * Take practice tests to get comfortable with the exam structure and timing. * Develop effective test-taking strategies, such as reading all the answer choices before making a selection. * Learn how to manage your time during the exam. ## Review Content * Review the topics that will be	# TOEFL imtihonida qanday yaxshi borish mumkin Ingliz tilini chet til sifatida olish (TOEFL) ko'pchilik uchun dahshatli istiqbol bo'lishi mumkin. Ammo to'g'ri tayyorgarlik bilan siz eng yaxshi ball olishingizga ishonch hosil qilishingiz mumkin. TOEFL imtihonida yaxshi bajarishda yordam beradigan ba'zi maslahatlar: ## oldindan tayyorlang * Imtihon uchun o'qish uchun tegishli vaqt ajrating. * Darsliklar, amaliy testlar va onlayn manba kabi turli xil resurslardan foydalaning. * Imtihon formati, tuzilishi va savollari bilan tanishing. ## test sinovlarini o'tkazish * Imtihon tuzilishi va vaqtni qulaylashtirish uchun amaliyot sinovlarini o'tkazing. * Tanlovni boshlashdan oldin barcha javoblarni tanlashda samarali sinov strategiyasini ishlab chiqish. * Imtihon paytida vaqtingizni qanday boshqarishni o'rganing. ## Tarkib * Bo'lgan mavzularni ko'rib chiqing	☑

02_Practice

5-2 Review Google Sheet(4) : Summarization

test

파일 수정 보기 삽입 서식 데이터 도구 확장 프로그램 도움말 14분 전에 마지막으로 수정했습니다.

100% $ % .0 .00 123 기본값 (Ari... 10

2 =IF(OR(OR(ISBLANK(A2),B2=""),F2=FALSE),"", GPT("Summarize this blog article below in 20 words and I want you to only reply in text and not

	E	F	G	H	
1	BLOG(Uzbek)	CHECK_SUMMARY	SUMMARY(EN)	SUMMARY(Uzbexk)	imag
2	# TOEFL imtihonida qanday yaxshi borish mumkin Ingliz tilini chet til sifatida olish (TOEFL) ko'pchilik uchun dahshatli istiqbol bo'lishi mumkin. Ammo to'g'ri tayyorgarlik bilan siz eng yaxshi ball olishingizga ishonch hosil qilishingiz mumkin. TOEFL imtihonida yaxshi bajarishda yordam beradigan ba'zi maslahatlar: ## oldindan tayyorlang * Imtihon uchun o'qish uchun tegishli vaqt ajrating. * Darsliklar, amaliy testlar va onlayn manba kabi turli xil resurslardan foydalaning. * Imtihon formati, tuzilishi va savollari bilan tanishing. ## test sinovlarini o'tkazish * Imtihon tuzilishi va vaqtni qulaylashtirish uchun amaliyot sinovlarini o'tkazing. * Tanlovni boshlashdan oldin barcha javoblarni tanlashda samarali sinov strategiyasini ishlab chiqish. * Imtihon paytida vaqtingizni qanday boshqarishni o'rganing. ## Tarkib * Bo'lgan mavzularni ko'rib chiqing	☑	Prepare in advance, practice test-taking skills, and review content to do well on the TOEFL exam.	Oldindan tayyorlaning, test-o'qituvchilarni mashq qiling va TOEFL imtihonida yaxshi bajaring.	
3					

02_Practice

5-2 Review Google Sheet(5) : Translation

test

파일 수정 보기 삽입 서식 데이터 도구 확장 프로그램 도움말 15분 전에 마지막으로 수정했습니다.

H2 =IFERROR(GOOGLETRANSLATE(G2,"en","uz"),"")

	H	I	J	K	L	M	N
1	SUMMARY(Uzbexk)	image_check	url	url			
2	Oldindan tayyorlaning, test-o'qituvchilarni mashq qiling va TOEFL imtihonida yaxshi bajaring.	☑	https://source.unsplash.com/1600x900/?toefl,exam,study,success				

02_Practice

5-2 Review Google Sheet(6) : Searching Image

100% $ % .0 .00 123 기본값 (Ari... 10

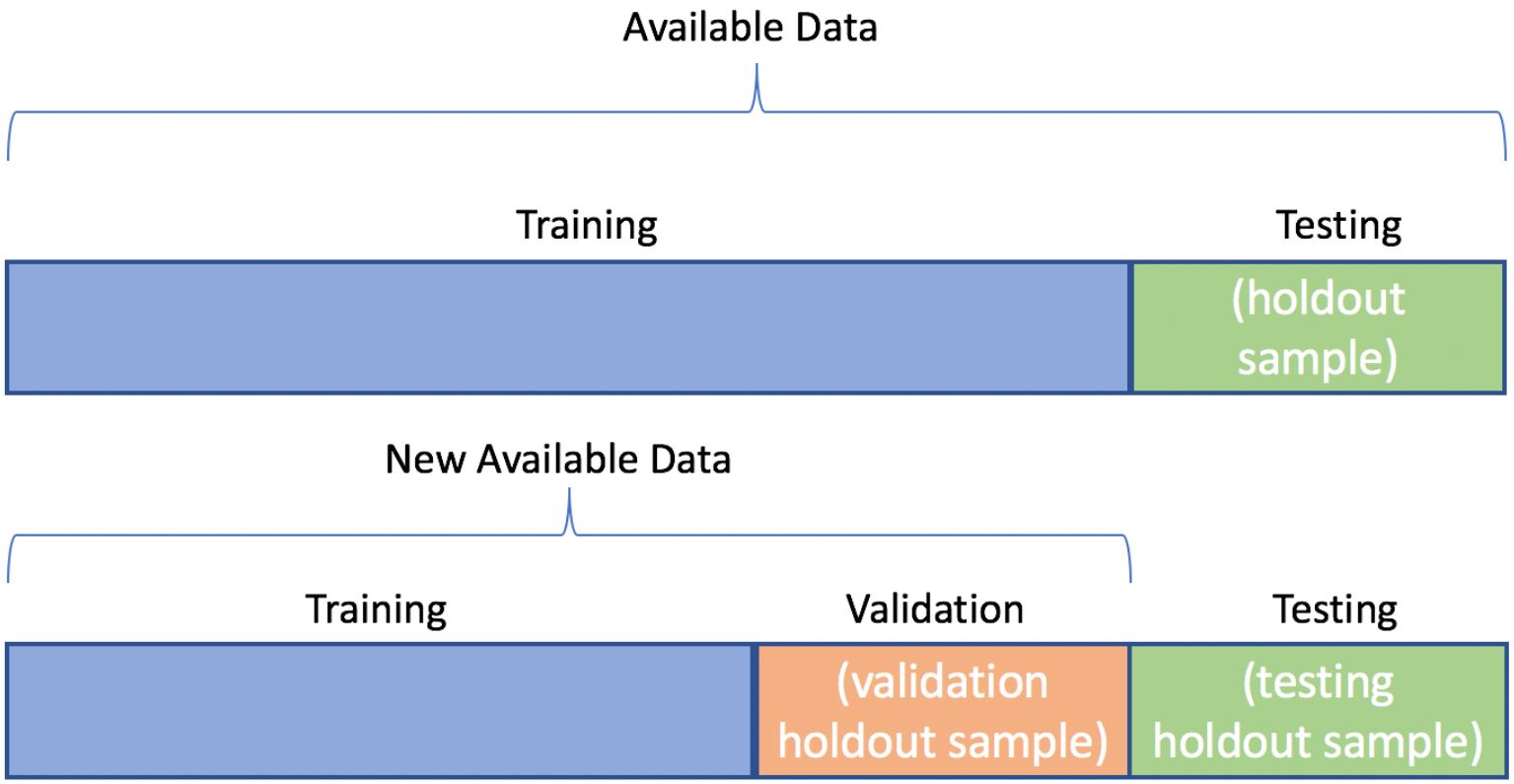
fx =if(OR(OR(ISBLANK(A2),B2=""),I2=FALSE),"", GPT(" [INFO: Use the Unsplash API (https://source.unsplash.com/1600x900/?<PUT YOUR QUERY HERE>). th

H	I	J	K	L	M	N	O
SUMMARY(Uzbexk)	**image_check**	**url**	**url**				
Oldindan tayyorlaning, test-o'qituvchilarni mashq qiling va TOEFL imtihonida yaxshi bajaring.	☑	https://source.unsplash.com/1600x900/?toefl,exam,study,success					

PART #3
data analysis Tip
- Train Test Data Split

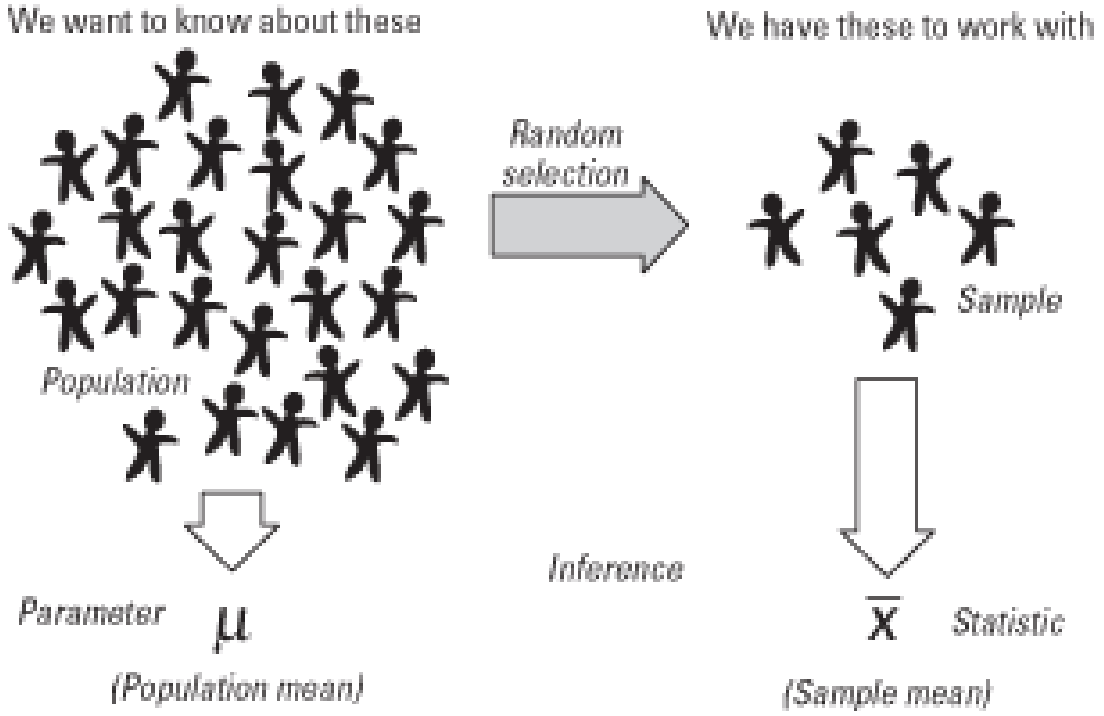
Business Issue

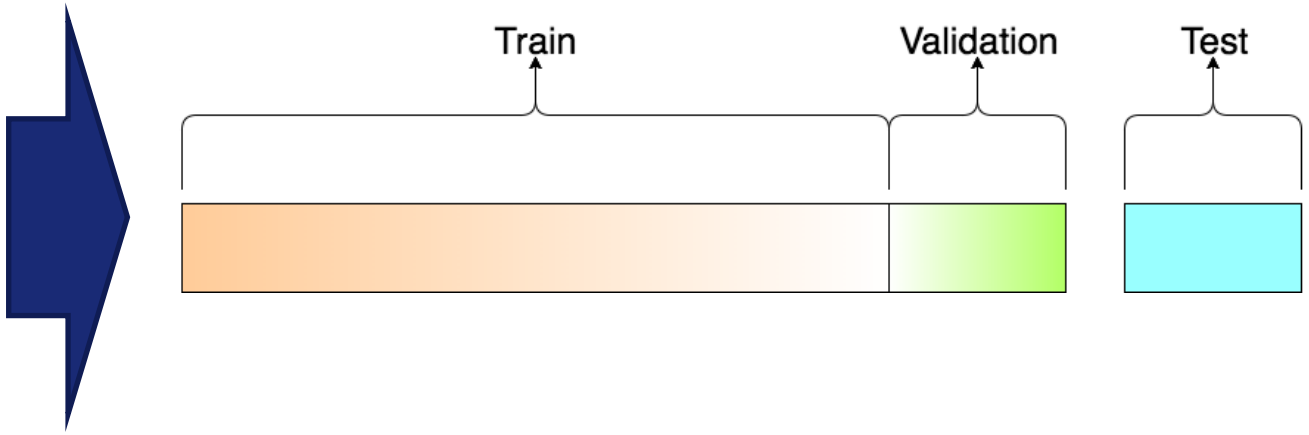
Why are companies less interested in “accuracy”?



서비스 소개

Why are companies less interested in “accuracy”?



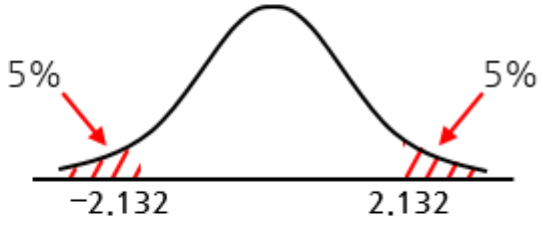


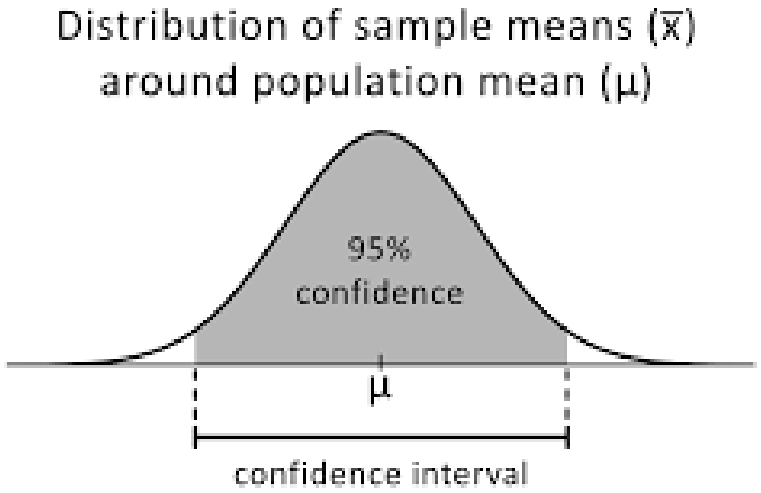
Business Issue

Why are companies less interested in “accuracy”?

So, will the accuracy increase if we collect more real-world data?

df \ α	0.4	0.25	0.1	0.05	0.025
1	0.325	1.000	3.078	6.314	12.706
2	0.289	0.816	1.886	2.920	4.303
3	0.277	0.765	1.638	2.353	3.182
4	0.271	0.741	1.533	2.132	2.776
5	0.267	0.727	1.476	2.015	2.571
6	0.265	0.718	1.440	1.943	2.447
7	0.263	0.711	1.415	1.895	2.365
8	0.262	0.706	1.397	1.860	2.306
9	0.261	0.703	1.383	1.833	2.262
10	0.260	0.700	1.372	1.812	2.228





Business Issue

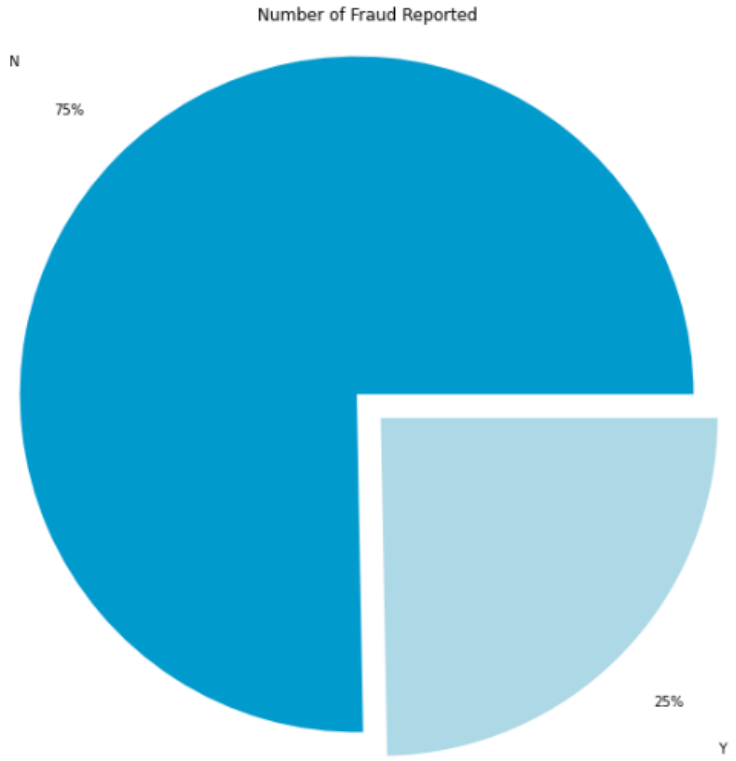
Why are companies less interested in “accuracy”?

Artificial intelligence that can't differentiate between black people and primates

Business Issue

Data sample imbalance problem : In reality it is solved with weights

```
        pctdistance=1.2,labeldistance=1.4)
plt.axis('equal')
plt.title("Number of Fraud Reported");
```



3-2. 불균형 해소

```
# ! pip install imblearn
from imblearn.over_sampling import SMOTE

sm = SMOTE(random_state=42)
X_sm, y_sm = sm.fit_resample(X, y)
print(f'''Shape of X before SMOTE: {X.shape}
Shape of X after SMOTE: {X_sm.shape}''')
print('#nBalance of positive and negative classes (%):')
y_sm.value_counts(normalize=True) * 100
```

```
Shape of X before SMOTE: (1000, 38)
Shape of X after SMOTE: (1506, 38)

Balance of positive and negative classes (%):
1    50.0
0    50.0
Name: fraud_reported, dtype: float64
```

```
from sklearn.model_selection import train_test_split
X_train, X_test, y_train, y_test = train_test_split(X_sm, y_sm, test_size=0.2, random_state=42)
```

서비스 소개

🏦 해결방법