

Start coding or [generate](#) with AI.

✓ First explain about google colab

- How to connect
- what is CPU GPU TPU
- explain about a simple python
- explain about print statement
- Tell them this is enough to do the work
- Tell them when you are watching movie just enjoy the movie, don't think about hero or heroin acting
- becuase in this session we have different type of students avialable
- Some knows already python DS, some dontknow
- This session is very every one not like regular
- Its completely interactive, lets enjoy the session together

```
!pip install google-generativeai
```

```
Requirement already satisfied: google-generativeai in /usr/local/lib/python3.10/dist-packages (0.3.2)
Requirement already satisfied: google-ai-generativelanguage==0.4.0 in /usr/local/lib/python3.10/dist-packages (from google-generati
Requirement already satisfied: google-auth in /usr/local/lib/python3.10/dist-packages (from google-generativeai) (2.27.0)
Requirement already satisfied: google-api-core in /usr/local/lib/python3.10/dist-packages (from google-generativeai) (2.11.1)
Requirement already satisfied: typing-extensions in /usr/local/lib/python3.10/dist-packages (from google-generativeai) (4.10.0)
Requirement already satisfied: protobuf in /usr/local/lib/python3.10/dist-packages (from google-generativeai) (3.20.3)
Requirement already satisfied: tqdm in /usr/local/lib/python3.10/dist-packages (from google-generativeai) (4.66.2)
Requirement already satisfied: proto-plus<2.0.0dev,>=1.22.3 in /usr/local/lib/python3.10/dist-packages (from google-ai-generativela
Requirement already satisfied: googleapis-common-protos<2.0.dev0,>=1.56.2 in /usr/local/lib/python3.10/dist-packages (from google-a
Requirement already satisfied: requests<3.0.0.dev0,>=2.18.0 in /usr/local/lib/python3.10/dist-packages (from google-api-core->googl
Requirement already satisfied: cachetools<6.0,>=2.0.0 in /usr/local/lib/python3.10/dist-packages (from google-auth->google-generati
Requirement already satisfied: pyasn1-modules>=0.2.1 in /usr/local/lib/python3.10/dist-packages (from google-auth->google-generativ
Requirement already satisfied: rsa<5,>=3.1.4 in /usr/local/lib/python3.10/dist-packages (from google-auth->google-generativeai) (4.
Requirement already satisfied: grpcio<2.0dev,>=1.33.2 in /usr/local/lib/python3.10/dist-packages (from google-api-core->google-gene
Requirement already satisfied: grpcio-status<2.0.dev0,>=1.33.2 in /usr/local/lib/python3.10/dist-packages (from google-api-core->go
Requirement already satisfied: pyasn1<0.6.0,>=0.4.6 in /usr/local/lib/python3.10/dist-packages (from pyasn1-modules>=0.2.1->google-
Requirement already satisfied: charset-normalizer<4,>=2 in /usr/local/lib/python3.10/dist-packages (from requests<3.0.0.dev0,>=2.18
Requirement already satisfied: idna<4,>=2.5 in /usr/local/lib/python3.10/dist-packages (from requests<3.0.0.dev0,>=2.18.0->google-a
Requirement already satisfied: urllib3<3,>=1.21.1 in /usr/local/lib/python3.10/dist-packages (from requests<3.0.0.dev0,>=2.18.0->go
Requirement already satisfied: certifi>=2017.4.17 in /usr/local/lib/python3.10/dist-packages (from requests<3.0.0.dev0,>=2.18.0->go
```

✓ Configure your API

- login through Gmail account get key from there

```
api_key="AIzaSyBUUejpbU_3eouCT961kHmKE2mQ6jQb8TU"
```

```
import os
import google.generativeai as genai

genai.configure(api_key = api_key)
```

✓ List of gemini models

```
import google.generativeai as genai

for m in genai.list_models():
    print(m.name)
```

```
models/chat-bison-001
models/text-bison-001
models/embedding-gecko-001
models/gemini-1.0-pro
models/gemini-1.0-pro-001
models/gemini-1.0-pro-latest
models/gemini-1.0-pro-vision-latest
models/gemini-pro
models/gemini-pro-vision
models/embedding-001
models/aqa
```

✓ For text Use gemini-pro

```
model = genai.GenerativeModel('gemini-pro')
model
```

```
genai.GenerativeModel(
  model_name='models/gemini-pro',
  generation_config={},
  safety_settings={}
)
```

```
response = model.generate_content("List of top 5 Indian Cricketers")
print(response.text)
```

```
1. Sachin Tendulkar
2. Virat Kohli
3. MS Dhoni
4. Sourav Ganguly
5. Kapil Dev
```

```
response = model.generate_content("List of top 5 Indian Cricketers, why they are top in list")
print(response.text)
```

```
1. **Sachin Tendulkar:**
  - Nicknamed the "Master Blaster," Tendulkar is widely considered the greatest batsman in Indian cricket history.
  - Holds numerous batting records, including most international runs (34,357), most runs in T20 cricket (12,413), and most runs in ODI cricket (18,426).
  - Known for his exceptional technique, consistency, and longevity.

2. **Virat Kohli:**
  - Known as the "Run Machine," Kohli is regarded as one of the best contemporary batsmen in the world.
  - Has broken numerous records, including the fastest to reach 10,000 ODI runs and the fastest to reach 10,000 Test runs.
  - Known for his aggressive batting style, quick footwork, and remarkable consistency.

3. **Sunil Gavaskar:**
  - Nicknamed the "Little Master," Gavaskar was a renowned opening batsman.
  - Holds the record for most Test centuries by an opener (34) and was the first Indian to score a century in Test cricket.
  - Known for his solid defense, patience, and ability to play spin well.

4. **Kapil Dev:**
  - A legendary all-rounder, Kapil Dev is known as the "Haryana Hurricane."
  - Led India to its first Cricket World Cup title in 1983.
  - Holds the record for most wickets in Test cricket (434) and was also a capable batsman.

5. **MS Dhoni:**
  - A former captain and wicket-keeper, Dhoni is celebrated for his strategic thinking and leadership.
  - Led India to victory in the inaugural T20 World Cup (2007), the 2011 Cricket World Cup, and the 2013 Champions Trophy.
```

```
genai.configure(api_key = api_key)
model = genai.GenerativeModel('gemini-1.0-pro-latest')
response = model.generate_content("write a poem on life")
print(response.text)
```

****Ode to Life****

A journey of laughter, tears, and strife,
Life's tapestry unfolds before our eyes.
Moments of joy and boundless life,
Interspersed with trials that try our guise.

From birth's tender embrace, we emerge anew,
With innocence and wonder in our gaze.
Exploring realms unknown, where dreams imbue,
The canvas of our lives we start to raise.

As we traverse through time's winding way,
Lessons unfold, shaping who we are.
Love, with its power, can lead us astray,
Or heal our hearts and leave a lasting scar.

Trials and tribulations test our core,
Forging strength and resilience in our soul.
With each adversity, we rise once more,
Evolving into beings brave and whole.

Youth's vibrant flame burns bright and bold,
Embracing adventure with hearts aflame.
But as we journey on, our story's told,
Through memories that create life's loving claim.

In twilight's gentle glow, we reflect,
Upon a life lived with purpose and grace.
With love and laughter, we've made our connect,
Leaving behind a legacy we'll embrace.

For life is not a sum of years,
But moments shared, filled with joy and cheer.
Embracing its beauty, shedding away fears,
We create a tapestry we hold so dear.

So let us live life to its fullest extent,
With gratitude for every precious breath.
For in the tapestry of time well-spent,
We find true meaning and conquer death.

✓ If you want to chat use chat model

```
dir(genai)
```

```
['ChatSession',
 'GenerationConfig',
 'GenerativeModel',
 '__builtins__',
 '__cached__',
 '__doc__',
 '__file__',
 '__loader__',
 '__name__',
 '__package__',
 '__path__',
 '__spec__',
 '__version__',
 'annotations',
 'chat',
 'chat_async',
 'configure',
 'count_message_tokens',
 'count_text_tokens',
 'create_tuned_model',
 'delete_tuned_model',
 'embed_content',
 'embedding',
 'generate_embeddings',
 'generate_text',
 'generative_models',
 'get_base_model',
 'get_model',
 'get_operation',
 'get_tuned_model',
 'list_models',
 'list_operations',
 'list_tuned_models',
 'operations',
 'string_utils',
 'types',
 'update_tuned_model']
```

```
response=genai.chat(prompt="hello")
print(response.last)
```

Hello! How can I help you today?

```
print(response.reply("name 3 healthy fruits").last)
```

Here are 3 healthy fruits:

1. Apples are a great source of fiber and vitamin C. They also contain quercetin, a flavonoid that has antioxidant and anti-inflamm
 2. Blueberries are low in calories and high in antioxidants. They have been shown to improve memory and cognitive function.
 3. Oranges are a good source of vitamin C and fiber. They also contain folate, potassium, and thiamin.
-

✓ Lets do some thing on image

```
import PIL
```

```
img=PIL.Image.open("/content/person.jpg")
```

```
model = genai.GenerativeModel('gemini-1.0-pro-vision-latest')
prompt="whar are the objects in the image"
response=model.generate_content([prompt,img])
print(response.text)
```

There are 3 objects in the image: a human, a dog, and a horse.

```
model = genai.GenerativeModel('gemini-1.0-pro-vision-latest')
prompt="tell me about image"
response=model.generate_content([prompt,img])
print(response.text)
```

The image shows a person with a dog and a horse in a field. The person is wearing a blue jacket and black pants. The dog is black

```
model = genai.GenerativeModel('gemini-1.0-pro-vision-latest')
prompt="type of dog in image"
response=model.generate_content([prompt,img])
print(response.text)
```

The dog in the image is a German Shepherd.

```
model = genai.GenerativeModel('gemini-1.0-pro-vision-latest')
prompt="write the poem on image"
response=model.generate_content([prompt,img])
print(response.text)
```

The Icelandic Horse

The Icelandic horse is a breed of horse that is native to Iceland. It is a small, hardy horse that is well-adapted to the harsh cli

The Icelandic horse has a long history in Iceland. It is believed that the first horses were brought to Iceland by the Vikings in t

The Icelandic horse is a unique and special breed of horse. It is a hardy, friendly, and surefooted horse that is well-adapted to t

Start coding or [generate](#) with AI.

Lets create an application on this

Stream lit

Till now what you are seeing is access the Google Gemini AI using python code

But our grand father or mother, a business guy does not know about python

They want only how to use

The dont want how to run in backend

For that purpose will need to create application

✓ For that again we need to install two more packages

```
!pip install streamlit
!npm install localtunnel
```

```
Requirement already satisfied: streamlit in /usr/local/lib/python3.10/dist-packages (1.32.2)
Requirement already satisfied: altair<6,>=4.0 in /usr/local/lib/python3.10/dist-packages (from streamlit) (4.2.2)
Requirement already satisfied: blinker<2,>=1.0.0 in /usr/lib/python3/dist-packages (from streamlit) (1.4)
Requirement already satisfied: cachetools<6,>=4.0 in /usr/local/lib/python3.10/dist-packages (from streamlit) (5.3.3)
Requirement already satisfied: click<9,>=7.0 in /usr/local/lib/python3.10/dist-packages (from streamlit) (8.1.7)
Requirement already satisfied: numpy<2,>=1.19.3 in /usr/local/lib/python3.10/dist-packages (from streamlit) (1.25.2)
Requirement already satisfied: packaging<24,>=16.8 in /usr/local/lib/python3.10/dist-packages (from streamlit) (23.2)
Requirement already satisfied: pandas<3,>=1.3.0 in /usr/local/lib/python3.10/dist-packages (from streamlit) (1.5.3)
Requirement already satisfied: pillow<11,>=7.1.0 in /usr/local/lib/python3.10/dist-packages (from streamlit) (9.4.0)
Requirement already satisfied: protobuf<5,>=3.20 in /usr/local/lib/python3.10/dist-packages (from streamlit) (3.20.3)
Requirement already satisfied: pyarrow>=7.0 in /usr/local/lib/python3.10/dist-packages (from streamlit) (14.0.2)
Requirement already satisfied: requests<3,>=2.27 in /usr/local/lib/python3.10/dist-packages (from streamlit) (2.31.0)
Requirement already satisfied: rich<14,>=10.14.0 in /usr/local/lib/python3.10/dist-packages (from streamlit) (13.7.1)
Requirement already satisfied: tenacity<9,>=8.1.0 in /usr/local/lib/python3.10/dist-packages (from streamlit) (8.2.3)
Requirement already satisfied: toml<2,>=0.10.1 in /usr/local/lib/python3.10/dist-packages (from streamlit) (0.10.2)
Requirement already satisfied: typing-extensions<5,>=4.3.0 in /usr/local/lib/python3.10/dist-packages (from streamlit) (4.10.0)
Requirement already satisfied: gitpython!=3.1.19,<4,>=3.0.7 in /usr/local/lib/python3.10/dist-packages (from streamlit) (3.1.42)
Requirement already satisfied: pydeck<1,>=0.8.0b4 in /usr/local/lib/python3.10/dist-packages (from streamlit) (0.8.1b0)
Requirement already satisfied: tornado<7,>=6.0.3 in /usr/local/lib/python3.10/dist-packages (from streamlit) (6.3.3)
Requirement already satisfied: watchdog>=2.1.5 in /usr/local/lib/python3.10/dist-packages (from streamlit) (4.0.0)
Requirement already satisfied: entrypoints in /usr/local/lib/python3.10/dist-packages (from altair<6,>=4.0->streamlit) (0.4)
Requirement already satisfied: jinja2 in /usr/local/lib/python3.10/dist-packages (from altair<6,>=4.0->streamlit) (3.1.3)
Requirement already satisfied: jsonschema>=3.0 in /usr/local/lib/python3.10/dist-packages (from altair<6,>=4.0->streamlit) (4.19)
Requirement already satisfied: toolz in /usr/local/lib/python3.10/dist-packages (from altair<6,>=4.0->streamlit) (0.12.1)
Requirement already satisfied: gitdb<5,>=4.0.1 in /usr/local/lib/python3.10/dist-packages (from gitpython!=3.1.19,<4,>=3.0.7->streamlit) (4.0.1)
Requirement already satisfied: python-dateutil>=2.8.1 in /usr/local/lib/python3.10/dist-packages (from pandas<3,>=1.3.0->streamlit) (2.8.1)
Requirement already satisfied: pytz>=2020.1 in /usr/local/lib/python3.10/dist-packages (from pandas<3,>=1.3.0->streamlit) (2023.3)
Requirement already satisfied: charset-normalizer<4,>=2 in /usr/local/lib/python3.10/dist-packages (from requests<3,>=2.27->streamlit) (3.3.2)
Requirement already satisfied: idna<4,>=2.5 in /usr/local/lib/python3.10/dist-packages (from requests<3,>=2.27->streamlit) (3.6)
Requirement already satisfied: urllib3<3,>=1.21.1 in /usr/local/lib/python3.10/dist-packages (from requests<3,>=2.27->streamlit) (2.2.1)
Requirement already satisfied: certifi>=2017.4.17 in /usr/local/lib/python3.10/dist-packages (from requests<3,>=2.27->streamlit) (2024.2.2)
Requirement already satisfied: markdown-it-py>=2.2.0 in /usr/local/lib/python3.10/dist-packages (from rich<14,>=10.14.0->streamlit) (3.0.0)
Requirement already satisfied: pygments<3.0.0,>=2.13.0 in /usr/local/lib/python3.10/dist-packages (from rich<14,>=10.14.0->streamlit) (2.18.0)
Requirement already satisfied: smmap<6,>=3.0.1 in /usr/local/lib/python3.10/dist-packages (from gitdb<5,>=4.0.1->gitpython!=3.1.19,<4,>=3.0.7->streamlit) (5.0.0)
Requirement already satisfied: MarkupSafe>=2.0 in /usr/local/lib/python3.10/dist-packages (from jinja2->altair<6,>=4.0->streamlit) (2.1.5)
Requirement already satisfied: attrs>=22.2.0 in /usr/local/lib/python3.10/dist-packages (from jsonschema>=3.0->altair<6,>=4.0->streamlit) (23.2.0)
Requirement already satisfied: jsonschema-specifications>=2023.03.6 in /usr/local/lib/python3.10/dist-packages (from jsonschema>=3.0->altair<6,>=4.0->streamlit) (2023.12.1)
Requirement already satisfied: referencing>=0.28.4 in /usr/local/lib/python3.10/dist-packages (from jsonschema>=3.0->altair<6,>=4.0->streamlit) (0.35.0)
Requirement already satisfied: rpds-py>=0.7.1 in /usr/local/lib/python3.10/dist-packages (from jsonschema>=3.0->altair<6,>=4.0->streamlit) (0.18.0)
Requirement already satisfied: mdurl<=0.1 in /usr/local/lib/python3.10/dist-packages (from markdown-it-py>=2.2.0->rich<14,>=10.14.0->streamlit) (0.1.2)
Requirement already satisfied: six>=1.5 in /usr/local/lib/python3.10/dist-packages (from python-dateutil>=2.8.1->pandas<3,>=1.3.0->streamlit) (1.16.0)
npm WARN saveError ENOENT: no such file or directory, open '/content/package.json'
npm notice created a lockfile as package-lock.json. You should commit this file.
npm WARN enoent ENOENT: no such file or directory, open '/content/package.json'
npm WARN content No description
npm WARN content No repository field.
npm WARN content No README data
npm WARN content No license field.

+ localtunnel@2.0.2
added 22 packages from 22 contributors and audited 22 packages in 1.915s

3 packages are looking for funding
  run `npm fund` for details

found 1 moderate severity vulnerability
  run `npm audit fix` to fix them, or `npm audit` for details
```

```
%%writefile app.py
import streamlit as st
import google.generativeai as genai
from PIL import Image
api_key="AIzaSyBUUejpbU_3eouCT96lkHmKE2mQ6jQb8TU"
genai.configure(api_key=api_key)
##### Choose heading of application #####
st.header("Image analytics")
```

Start coding or [generate](#) with AI.

if unloaded file is not None:

```
!streamlit run /content/app.py & npx localtunnel --port 8501 & curl ipv4.icanhazip.com
```

34.31.15.171

Collecting usage statistics. To deactivate, set browser.gatherUsageStats to False.

You can now view your Streamlit app in your browser.

Network URL: <http://172.28.0.12:8501>

External URL: <http://34.31.15.171:8501>

npx: installed 22 in 1.889s

your url is: <https://breezy-rabbits-invite.loca.lt>

2024-03-23 17:32:26.611 Uncaught app exception

Traceback (most recent call last):

```
File "/usr/local/lib/python3.10/dist-packages/PIL/Image.py", line 3231, in open
    fp.seek(0)
```

AttributeError: 'list' object has no attribute 'seek'

During handling of the above exception, another exception occurred:

Traceback (most recent call last):

```
File "/usr/local/lib/python3.10/dist-packages/streamlit/runtime/scriptrunner/script_runner.py", line 542, in _run_script
    exec(code, module.__dict__)
```