Generative AI Models

In [ ]:

In [1]:
```python
a=10
b=20
c= a+b
c
```

Out[1]: 30

In [2]:
```
!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/lo
cal/lib/python3.10/dist-packages (from google-generativeai) (0.4.0)
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/d
ist-packages (from google-generativeai) (2.11.1)
Requirement already satisfied: typing-extensions in /usr/local/lib/python3.1
0/dist-packages (from google-generativeai) (4.10.0)
Requirement already satisfied: protobuf in /usr/local/lib/python3.10/dist-pac
kages (from google-generativeai) (3.20.3)
Requirement already satisfied: tqdm in /usr/local/lib/python3.10/dist-package
s (from google-generativeai) (4.66.2)
Requirement already satisfied: proto-plus<2.0.0dev,>=1.22.3 in /usr/local/li
b/python3.10/dist-packages (from google-ai-generativelanguage==0.4.0->google-
generativeai) (1.23.0)
Requirement already satisfied: googleapis-common-protos<2.0.dev0,>=1.56.2 in
/usr/local/lib/python3.10/dist-packages (from google-api-core->google-generat
iveai) (1.63.0)
Requirement already satisfied: requests<3.0.0.dev0,>=2.18.0 in /usr/local/li
b/python3.10/dist-packages (from google-api-core->google-generativeai) (2.31.
0)
Requirement already satisfied: cachetools<6.0,>=2.0.0 in /usr/local/lib/pytho
n3.10/dist-packages (from google-auth->google-generativeai) (5.3.3)
Requirement already satisfied: pyasn1-modules>=0.2.1 in /usr/local/lib/python
3.10/dist-packages (from google-auth->google-generativeai) (0.3.0)
Requirement already satisfied: rsa<5,>=3.1.4 in /usr/local/lib/python3.10/dis
t-packages (from google-auth->google-generativeai) (4.9)
Requirement already satisfied: grpcio<2.0dev,>=1.33.2 in /usr/local/lib/pytho
n3.10/dist-packages (from google-api-core->google-generativeai) (1.62.1)
Requirement already satisfied: grpcio-status<2.0.dev0,>=1.33.2 in /usr/local/
lib/python3.10/dist-packages (from google-api-core->google-generativeai) (1.4
8.2)
Requirement already satisfied: pyasn1<0.6.0,>=0.4.6 in /usr/local/lib/python
3.10/dist-packages (from pyasn1-modules>=0.2.1->google-auth->google-generativ
eai) (0.5.1)
Requirement already satisfied: charset-normalizer<4,>=2 in /usr/local/lib/pyt
hon3.10/dist-packages (from requests<3.0.0.dev0,>=2.18.0->google-api-core->go
ogle-generativeai) (3.3.2)
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-api-core->google-generat
iveai) (3.6)
Requirement already satisfied: urllib3<3,>=1.21.1 in /usr/local/lib/python3.1
0/dist-packages (from requests<3.0.0.dev0,>=2.18.0->google-api-core->google-g
enerativeai) (2.0.7)
Requirement already satisfied: certifi>=2017.4.17 in /usr/local/lib/python3.1
0/dist-packages (from requests<3.0.0.dev0,>=2.18.0->google-api-core->google-g
enerativeai) (2024.2.2)

In [3]:
```python
import os
import google.generativeai as genai
api_key = "Api_key_path"
genai.configure(api_key= api_key)
```

In [4]:
```python
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
```

Text model: Gemini-Pro

In [5]:
```python
model = genai.GenerativeModel("gemini-pro")
model
```

Out[5]:
```
genai.GenerativeModel(
    model_name='models/gemini-pro',
    generation_config={}.
    safety_settings={}
)
```

In [6]:
```python
response = model.generate_content("List of top 5 indian cricketers")
print(response.text)
```

```
1. **Sachin Tendulkar**
2. **Virat Kohli**
3. **Sunil Gavaskar**
4. **Kapil Dev**
5. **Rahul Dravid**
```

In [7]:
```python
response = model.generate_content("Write a poem on kid")
print(response.text)
```

Ode to a Kid

A bundle of joy, a tiny sprite,
With eyes that sparkle, so bright and light.
A symphony of giggles, a chorus of cheers,
Their laughter echoes, dispelling all fears.

With curious minds, they explore and play,
Unveiling wonders with each passing day.
Imaginations soar, beyond the realm of rhyme,
Creating worlds where fantasy intertwines.

With tiny hands, they reach for the stars,
Their dreams and aspirations, boundless and far.
Their hearts, so pure and innocent still,
Reflect the beauty that life can instill.

They skip and twirl, their laughter fills the air,
A reminder of the joy we once knew there.
They teach us patience, love, and grace,
As we watch them grow and leave their trace.

So cherish every moment, hold them close,
For in their innocence, the sweetest truth reposes.
For they are our future, our hope, our guide,
May their spirits forever soar and ride.

In [7]:

Image Model

In [8]:
```python
from PIL import Image #Package name pillow
```

In [9]:
```python
img = Image.open("/content/IMG-20240318-WA0019.jpg")
img
```

Out[9]:

In [10]:
```python
import google.generativeai as genai
api_key = "Api_key_path"
genai.configure(api_key= api_key)
```

In [11]:
```python
model = genai.GenerativeModel("gemini-1.0-pro-vision-latest")
prompt = "what are the objects in the given image"
res = model.generate_content([prompt,img])
print(res.parts)
```

```
[text: " The image contains:\n1. A mountain range\n2. A valley\n3. A river\n
4. Snow\n5. Rocks\n6. Clouds\n7. The sky"
]
```

In [12]:
```python
prompt = "write a poem on the above image"
res = model.generate_content([prompt,img])
print(res.text)
```

The Himalayas

The Himalayas, a majestic sight,
A towering presence, a breathtaking height.
Snow-capped peaks reaching for the sky,
A symbol of strength, a reason to sigh.

Formed by the collision of two tectonic plates,
The Himalayas are a geological wonder, a testament to time's weight.
Their beauty is unparalleled, a sight to behold,
A reminder of nature's power, a story yet untold.

The Himalayas are home to diverse cultures and traditions,
A melting pot of languages, religions, and ambitions.
People from all walks of life come to pay their respects,
To experience the beauty, to conquer the treks.

The Himalayas are a source of life,
Providing water, food, and shelter in their strife.
The rivers that flow from their glaciers,
Sustain communities, nurture dreams, and erase barriers.

The Himalayas are a symbol of resilience,
Withstanding the harshest of conditions, they remain in defiance.
They teach us to be strong, to never give up,
To keep striving, to reach for the top.

The Himalayas are a gift from nature,
A treasure to be cherished, a legacy to nurture.
Let us protect and preserve this natural wonder,
For generations to come, to experience its splendor.

The Himalayas, a majestic sight,
A towering presence, a breathtaking height.
A symbol of strength, a reason to sigh,
The Himalayas, a wonder, reaching for the sky.

Create a Application

In [13]:
```
!pip install streamlit
!npm install localtunel
```

```
Requirement already satisfied: streamlit in /usr/local/lib/python3.10/dist-pa
ckages (1.32.2)
Requirement already satisfied: altair<6,>=4.0 in /usr/local/lib/python3.10/di
st-packages (from streamlit) (4.2.2)
Requirement already satisfied: blinker<2,>=1.0.0 in /usr/lib/python3/dist-pac
kages (from streamlit) (1.4)
Requirement already satisfied: cachetools<6,>=4.0 in /usr/local/lib/python3.1
0/dist-packages (from streamlit) (5.3.3)
Requirement already satisfied: click<9,>=7.0 in /usr/local/lib/python3.10/dis
t-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/python3.1
0/dist-packages (from streamlit) (9.4.0)
Requirement already satisfied: protobuf<5,>=3.20 in /usr/local/lib/python3.1
0/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/python3.1
0/dist-packages (from streamlit) (2.31.0)
Requirement already satisfied: rich<14,>=10.14.0 in /usr/local/lib/python3.1
0/dist-packages (from streamlit) (13.7.1)
Requirement already satisfied: tenacity<9,>=8.1.0 in /usr/local/lib/python3.1
0/dist-packages (from streamlit) (8.2.3)
Requirement already satisfied: toml<2,>=0.10.1 in /usr/local/lib/python3.10/d
ist-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/li
b/python3.10/dist-packages (from streamlit) (3.1.42)
Requirement already satisfied: pydeck<1,>=0.8.0b4 in /usr/local/lib/python3.1
0/dist-packages (from streamlit) (0.8.1b0)
Requirement already satisfied: tornado<7,>=6.0.3 in /usr/local/lib/python3.1
0/dist-packages (from streamlit) (6.3.3)
Requirement already satisfied: watchdog>=2.1.5 in /usr/local/lib/python3.10/d
ist-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-packa
ges (from altair<6,>=4.0->streamlit) (3.1.3)
Requirement already satisfied: jsonschema>=3.0 in /usr/local/lib/python3.10/d
ist-packages (from altair<6,>=4.0->streamlit) (4.19.2)
Requirement already satisfied: toolz in /usr/local/lib/python3.10/dist-packag
es (from altair<6,>=4.0->streamlit) (0.12.1)
Requirement already satisfied: gitdb<5,>=4.0.1 in /usr/local/lib/python3.10/d
ist-packages (from gitpython!=3.1.19,<4,>=3.0.7->streamlit) (4.0.11)
Requirement already satisfied: python-dateutil>=2.8.1 in /usr/local/lib/pytho
n3.10/dist-packages (from pandas<3,>=1.3.0->streamlit) (2.8.2)
Requirement already satisfied: pytz>=2020.1 in /usr/local/lib/python3.10/dist
-packages (from pandas<3,>=1.3.0->streamlit) (2023.4)
Requirement already satisfied: charset-normalizer<4,>=2 in /usr/local/lib/pyt
hon3.10/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/python3.1
0/dist-packages (from requests<3,>=2.27->streamlit) (2.0.7)
Requirement already satisfied: certifi>=2017.4.17 in /usr/local/lib/python3.1
0/dist-packages (from requests<3,>=2.27->streamlit) (2024.2.2)
Requirement already satisfied: markdown-it-py>=2.2.0 in /usr/local/lib/python
3.10/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/pyth
on3.10/dist-packages (from rich<14,>=10.14.0->streamlit) (2.16.1)
Requirement already satisfied: smmap<6,>=3.0.1 in /usr/local/lib/python3.10/d
ist-packages (from gitdb<5,>=4.0.1->gitpython!=3.1.19,<4,>=3.0.7->streamlit)
(5.0.1)
Requirement already satisfied: MarkupSafe>=2.0 in /usr/local/lib/python3.10/d
ist-packages (from jinja2->altair<6,>=4.0->streamlit) (2.1.5)
Requirement already satisfied: attrs>=22.2.0 in /usr/local/lib/python3.10/dis
t-packages (from jsonschema>=3.0->altair<6,>=4.0->streamlit) (23.2.0)
Requirement already satisfied: jsonschema-specifications>=2023.03.6 in /usr/l
ocal/lib/python3.10/dist-packages (from jsonschema>=3.0->altair<6,>=4.0->stre
amlit) (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) (0.34.0)
Requirement already satisfied: rpds-py>=0.7.1 in /usr/local/lib/python3.10/di
st-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-p
ackages (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-pac
kages (from python-dateutil>=2.8.1->pandas<3,>=1.3.0->streamlit) (1.16.0)
npm ERR! code E404
npm ERR! 404 Not Found - GET https://registry.npmjs.org/localtunel (https://r
egistry.npmjs.org/localtunel) - Not found
npm ERR! 404
npm ERR! 404  'localtunel@latest' is not in the npm registry.
npm ERR! 404 You should bug the author to publish it (or use the name yoursel
f!)
npm ERR! 404
npm ERR! 404 Note that you can also install from a
npm ERR! 404 tarball, folder, http url, or git url.

npm ERR! A complete log of this run can be found in:
npm ERR!     /root/.npm/_logs/2024-03-25T11_13_47_691Z-debug.log
```

In [14]:
```python
#import streamlit as st
#import google.generativeai as genai
#from PIL import Image
```

In [15]:
```python
#api_key = "Api_key_path"
#genai.configure(api_key= api_key)
```

In [16]:
```python
#choose the heading
#st.header("Image Analytics")
```

In [17]:
```python
%%writefile app.py
import streamlit as st
import google.generativeai as genai
from PIL import Image


api_key = "Api_key_path"
genai.configure(api_key= api_key)

#choose the heading
st.header("Image Analytics")

### Upload a File ###
upload_file = st.file_uploader("Upload an Image", type=["png","jpg","jpeg"])
if upload_file is not None:
  st.image(Image.open(upload_file))

### What you want ####
prompt = st.text_input("Enter the text")

### Use genai skill ###

if st.button("GET RESPONSE"):
  img = Image.open(upload_file)
  model = genai.GenerativeModel("gemini-1.0-pro-vision-latest")
  res = model.generate_content([prompt,img])
  st.markdown(res.text)
```

Overwriting app.py

In [ ]:
```python
!streamlit run /content/app.py & npx localtunnel --port 8501 & curl ipv4.icanh
```

34.42.105.32

Collecting usage statistics. To deactivate, set browser.gatherUsageStats to F
alse.

npx: installed 22 in 5.329s
your url is: https://afraid-cats-help.loca.lt (https://afraid-cats-help.loca.
lt)

  You can now view your Streamlit app in your browser.

  Network URL: **http://172.28.0.12:8501**
  External URL: **http://34.42.105.32:8501**

In [ ]: