```
%pip install diffusers
```

```
Collecting diffusers
  Downloading diffusers-0.35.0-py3-none-any.whl.metadata (20 kB)
Requirement already satisfied: importlib_metadata in /usr/lib/python3/dist-packages (from diffusers) (4.6.4)
Requirement already satisfied: filelock in /usr/local/lib/python3.12/dist-packages (from diffusers) (3.19.1)
Requirement already satisfied: huggingface-hub>=0.34.0 in /usr/local/lib/python3.12/dist-packages (from diffusers) (0.34.4)
Requirement already satisfied: numpy in /usr/local/lib/python3.12/dist-packages (from diffusers) (2.0.2)
Requirement already satisfied: regex!=2019.12.17 in /usr/local/lib/python3.12/dist-packages (from diffusers) (2025.7.34)
Requirement already satisfied: requests in /usr/local/lib/python3.12/dist-packages (from diffusers) (2.32.3)
Requirement already satisfied: safetensors>=0.3.1 in /usr/local/lib/python3.12/dist-packages (from diffusers) (0.6.2)
Requirement already satisfied: Pillow in /usr/local/lib/python3.12/dist-packages (from diffusers) (11.3.0)
Requirement already satisfied: fsspec>=2023.5.0 in /usr/local/lib/python3.12/dist-packages (from huggingface-hub>=0.34.0->di
Requirement already satisfied: packaging>=20.9 in /usr/local/lib/python3.12/dist-packages (from huggingface-hub>=0.34.0->dif
Requirement already satisfied: pyyaml>=5.1 in /usr/local/lib/python3.12/dist-packages (from huggingface-hub>=0.34.0->diffuse
Requirement already satisfied: tqdm>=4.42.1 in /usr/local/lib/python3.12/dist-packages (from huggingface-hub>=0.34.0->diffus
Requirement already satisfied: typing-extensions>=3.7.4.3 in /usr/local/lib/python3.12/dist-packages (from huggingface-hub>=
Requirement already satisfied: hf-xet<2.0.0,>=1.1.3 in /usr/local/lib/python3.12/dist-packages (from huggingface-hub>=0.34.0
Requirement already satisfied: charset-normalizer<4,>=2 in /usr/local/lib/python3.12/dist-packages (from requests->diffusers
Requirement already satisfied: idna<4,>=2.5 in /usr/local/lib/python3.12/dist-packages (from requests->diffusers) (3.10)
Requirement already satisfied: urllib3<3,>=1.21.1 in /usr/local/lib/python3.12/dist-packages (from requests->diffusers) (2.5
Requirement already satisfied: certifi>=2017.4.17 in /usr/local/lib/python3.12/dist-packages (from requests->diffusers) (202
Downloading diffusers-0.35.0-py3-none-any.whl (4.1 MB)
   ──────────────────────────────────────── 4.1/4.1 MB 43.7 MB/s eta 0:00:00
Installing collected packages: diffusers
Successfully installed diffusers-0.35.0
```

```
import torch
from diffusers import PixArtAlphaPipeline
```

```
model_id = "PixArt-alpha/PixArt-XL-2-512x512"
dtype = torch.float16 if torch.cuda.is_available() else torch.float32
pipe = PixArtAlphaPipeline.from_pretrained(
    model_id,
    torch_dtype=dtype,
)
device = "cuda" if torch.cuda.is_available() else "cpu"
pipe = pipe.to(device)

# Optional: enable faster attention if available

if device == "cuda":
  pipe.enable_model_cpu_offload() # works well on limited VRAM
  pipe.enable_vae_slicing()
```

```
/usr/local/lib/python3.12/dist-packages/huggingface_hub/utils/_auth.py:94: UserWarning:
The secret `HF_TOKEN` does not exist in your Colab secrets.
To authenticate with the Hugging Face Hub, create a token in your settings tab (https://huggingface.co/settings/tokens), se
You will be able to reuse this secret in all of your notebooks.
Please note that authentication is recommended but still optional to access public models or datasets.
  warnings.warn(
```

```python
prompt = (
    "Ultra-realistic close-up portrait of a young adult human, neutral expression,"
    "natural soft lighting, 85mm lens bokeh, high detail skin, photographic quality"
)
negative_prompt = (
    "blurry, low quality, extra fingers, extra eyes, deformed, text, watermark, logo"
)
```

```python
#3) Generate the image

generator = torch.Generator(device=device).manual_seed(42) # set seed for reproducibility
image = pipe(
    prompt=prompt,
    negative_prompt=negative_prompt,
    num_inference_steps=24,
    guidance_scale=4.5,
    height=512,
    width=512,
    generator=generator
).images[0]

#4) Save the result

image.save("face.png")
print("Saved to face.png")
```

```
vae/diffusion_pytorch_model.safetensors: 100%                          335M/335M [00:56<00:00, 5.51MB/s]
Setting `clean_caption=True` requires the ftfy library but it was not found in your environment. Checkout the instructions c
installation section: https://github.com/rspeer/python-ftfy/tree/master#installing and follow the ones
Loading pipeline components: 100%                                       5/5 [00:00<00:00, 3.91it/s]
that match your environment. Please note that you may need to restart your runtime after installation.
Loading checkpoint shards: 100%                                        4/4 [00:00<00:00, 97.34it/s]
Setting `clean_caption` to False...
Some weights of the model checkpoint at /root/.cache/huggingface/hub/models--PixArt-alpha--PixArt-XL-2-512x512/snapshots/50f
  ['caption_projection.y_embedding']
Setting `clean_caption=True` requires the ftfy library but it was not found in your environment. Checkout the instructions c
installation section: https://github.com/rspeer/python-ftfy/tree/master#installing and follow the ones
that match your environment. Please note that you may need to restart your runtime after installation.

Setting `clean_caption` to False...
100%                                                                   24/24 [09:57<00:00, 23.41s/it]

Saved to face.png
```