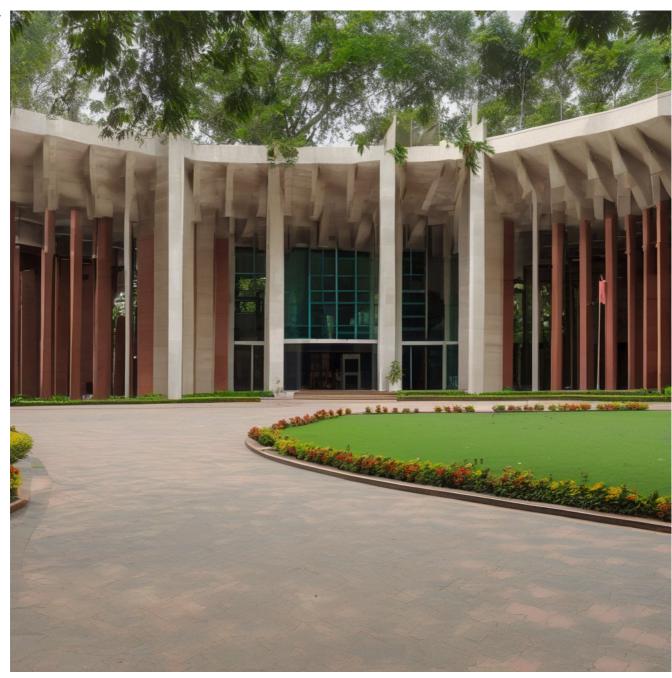```
pip install diffusers --upgrade
```

⇥ Requirement already satisfied: diffusers in /usr/local/lib/python3.11/dist-packages (0.32.2)
  Collecting diffusers
    Downloading diffusers-0.33.1-py3-none-any.whl.metadata (19 kB)
  Requirement already satisfied: importlib-metadata in /usr/local/lib/python3.11/dist-packages (from diffusers) (8.6.1)
  Requirement already satisfied: filelock in /usr/local/lib/python3.11/dist-packages (from diffusers) (3.18.0)
  Requirement already satisfied: huggingface-hub>=0.27.0 in /usr/local/lib/python3.11/dist-packages (from diffusers) (0.30.2)
  Requirement already satisfied: numpy in /usr/local/lib/python3.11/dist-packages (from diffusers) (2.0.2)
  Requirement already satisfied: regex!=2019.12.17 in /usr/local/lib/python3.11/dist-packages (from diffusers) (2024.11.6)
  Requirement already satisfied: requests in /usr/local/lib/python3.11/dist-packages (from diffusers) (2.32.3)
  Requirement already satisfied: safetensors>=0.3.1 in /usr/local/lib/python3.11/dist-packages (from diffusers) (0.5.3)
  Requirement already satisfied: Pillow in /usr/local/lib/python3.11/dist-packages (from diffusers) (11.1.0)
  Requirement already satisfied: fsspec>=2023.5.0 in /usr/local/lib/python3.11/dist-packages (from huggingface-hub>=0.27.0->diffusers
  Requirement already satisfied: packaging>=20.9 in /usr/local/lib/python3.11/dist-packages (from huggingface-hub>=0.27.0->diffusers)
  Requirement already satisfied: pyyaml>=5.1 in /usr/local/lib/python3.11/dist-packages (from huggingface-hub>=0.27.0->diffusers) (6.6
  Requirement already satisfied: tqdm>=4.42.1 in /usr/local/lib/python3.11/dist-packages (from huggingface-hub>=0.27.0->diffusers) (4
  Requirement already satisfied: typing-extensions>=3.7.4.3 in /usr/local/lib/python3.11/dist-packages (from huggingface-hub>=0.27.0->
  Requirement already satisfied: zipp>=3.20 in /usr/local/lib/python3.11/dist-packages (from importlib-metadata->diffusers) (3.21.0)
  Requirement already satisfied: charset-normalizer<4,>=2 in /usr/local/lib/python3.11/dist-packages (from requests->diffusers) (3.4.1
  Requirement already satisfied: idna<4,>=2.5 in /usr/local/lib/python3.11/dist-packages (from requests->diffusers) (3.10)
  Requirement already satisfied: urllib3<3,>=1.21.1 in /usr/local/lib/python3.11/dist-packages (from requests->diffusers) (2.3.0)
  Requirement already satisfied: certifi>=2017.4.17 in /usr/local/lib/python3.11/dist-packages (from requests->diffusers) (2025.1.31)
  Downloading diffusers-0.33.1-py3-none-any.whl (3.6 MB)
  ━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━ 3.6/3.6 MB 84.9 MB/s eta 0:00:00
  Installing collected packages: diffusers
    Attempting uninstall: diffusers
      Found existing installation: diffusers 0.32.2
      Uninstalling diffusers-0.32.2:
        Successfully uninstalled diffusers-0.32.2
  Successfully installed diffusers-0.33.1

◀ ━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━ ▶

```
pip install invisible_watermark transformers accelerate safetensors
```

⇥   ▲

```
    Attempting uninstall: nvidia-cudnn-cu12
      Found existing installation: nvidia-cudnn-cu12 9.3.0.75
      Uninstalling nvidia-cudnn-cu12-9.3.0.75:
        Successfully uninstalled nvidia-cudnn-cu12-9.3.0.75
    Attempting uninstall: nvidia-cusolver-cu12
      Found existing installation: nvidia-cusolver-cu12 11.6.3.83
      Uninstalling nvidia-cusolver-cu12-11.6.3.83:
        Successfully uninstalled nvidia-cusolver-cu12-11.6.3.83
  Successfully installed PyWavelets-1.8.0 invisible_watermark-0.2.0 nvidia-cublas-cu12-12.4.5.8 nvidia-cuda-cupti-cu12-12.4.127 nvi
```

```python
from diffusers import DiffusionPipeline
import torch

pipe = DiffusionPipeline.from_pretrained("stabilityai/stable-diffusion-xl-base-1.0", torch_dtype=torch.float16, use_safetensors=True, va
pipe.to("cuda")

# if using torch < 2.0
# pipe.enable_xformers_memory_efficient_attention()

prompt = "iim  front banglore image"

images = pipe(prompt=prompt).images[0]
```

```
Loading pipeline components...: 100%                                              7/7 [00:04<00:00,  1.24it/s]

100%                                        50/50 [00:46<00:00,  1.10it/s]
```

```python
images
```

```
!pip install gradio diffusers transformers accelerate
```

```
Collecting gradio
  Downloading gradio-5.25.2-py3-none-any.whl.metadata (16 kB)
Requirement already satisfied: diffusers in /usr/local/lib/python3.11/dist-packages (0.33.1)
Requirement already satisfied: transformers in /usr/local/lib/python3.11/dist-packages (4.51.1)
Requirement already satisfied: accelerate in /usr/local/lib/python3.11/dist-packages (1.5.2)
Collecting aiofiles<25.0,>=22.0 (from gradio)
  Downloading aiofiles-24.1.0-py3-none-any.whl.metadata (10 kB)
Requirement already satisfied: anyio<5.0,>=3.0 in /usr/local/lib/python3.11/dist-packages (from gradio) (4.9.0)
Collecting fastapi<1.0,>=0.115.2 (from gradio)
  Downloading fastapi-0.115.12-py3-none-any.whl.metadata (27 kB)
Collecting ffmpy (from gradio)
  Downloading ffmpy-0.5.0-py3-none-any.whl.metadata (3.0 kB)
Collecting gradio-client==1.8.0 (from gradio)
  Downloading gradio_client-1.8.0-py3-none-any.whl.metadata (7.1 kB)
Collecting groovy~=0.1 (from gradio)
  Downloading groovy-0.1.2-py3-none-any.whl.metadata (6.1 kB)
Requirement already satisfied: httpx>=0.24.1 in /usr/local/lib/python3.11/dist-packages (from gradio) (0.28.1)
Requirement already satisfied: huggingface-hub>=0.28.1 in /usr/local/lib/python3.11/dist-packages (from gradio) (0.30.2)
Requirement already satisfied: jinja2<4.0 in /usr/local/lib/python3.11/dist-packages (from gradio) (3.1.6)
Requirement already satisfied: markupsafe<4.0,>=2.0 in /usr/local/lib/python3.11/dist-packages (from gradio) (3.0.2)
Requirement already satisfied: numpy<3.0,>=1.0 in /usr/local/lib/python3.11/dist-packages (from gradio) (2.0.2)
Requirement already satisfied: orjson~=3.0 in /usr/local/lib/python3.11/dist-packages (from gradio) (3.10.16)
Requirement already satisfied: packaging in /usr/local/lib/python3.11/dist-packages (from gradio) (24.2)
Requirement already satisfied: pandas<3.0,>=1.0 in /usr/local/lib/python3.11/dist-packages (from gradio) (2.2.2)
Requirement already satisfied: pillow<12.0,>=8.0 in /usr/local/lib/python3.11/dist-packages (from gradio) (11.1.0)
Requirement already satisfied: pydantic<2.12,>=2.0 in /usr/local/lib/python3.11/dist-packages (from gradio) (2.11.3)
```

```python
import gradio as gr
from diffusers import StableDiffusionPipeline, EulerDiscreteScheduler
import torch

model_id = "stabilityai/stable-diffusion-2-1-base"

scheduler = EulerDiscreteScheduler.from_pretrained(model_id, subfolder="scheduler")
pipe = StableDiffusionPipeline.from_pretrained(
    model_id, scheduler=scheduler, torch_dtype=torch.float16
)
pipe = pipe.to("cuda")

def generated_image(prompt):
    image = pipe(prompt).images[0]
    return image

gr.Interface(
    fn=generated_image,
    inputs=gr.Textbox(label="Enter your prompt"),
    outputs=gr.Image(type="pil"),
    title="Stable Diffusion 2.1 - Vanshika Jaiswal IMAGE GENERATOR APP",
    description="A lone fierce warrior fighting against thousand enemies"
).launch()
```

scheduler_config.json: 100%   346/346 [00:00<00:00, 20.8kB/s]

model_index.json: 100%   543/543 [00:00<00:00, 35.2kB/s]

Fetching 12 files: 100%   12/12 [00:38<00:00, 3.69s/it]

Xet Storage is enabled for this repo, but the 'hf_xet' package is not installed. Falling back to regular HTTP download. For better p
WARNING:huggingface_hub.file_download:Xet Storage is enabled for this repo, but the 'hf_xet' package is not installed. Falling back

merges.txt: 100%   525k/525k [00:00<00:00, 1.18MB/s]

config.json: 100%   613/613 [00:00<00:00, 12.0kB/s]

special_tokens_map.json: 100%   460/460 [00:00<00:00, 10.8kB/s]

vocab.json: 100%   1.06M/1.06M [00:00<00:00, 13.7MB/s]

scheduler_config.json: 100%   346/346 [00:00<00:00, 20.8kB/s]

model_index.json: 100%   543/543 [00:00<00:00, 35.2kB/s]

Fetching 12 files: 100%   12/12 [00:38<00:00, 3.69s/it]

Xet Storage is enabled for this repo, but the 'hf_xet' package is not installed. Falling back to regular HTTP download. For better p
WARNING:huggingface_hub.file_download:Xet Storage is enabled for this repo, but the 'hf_xet' package is not installed. Falling back

merges.txt: 100%   525k/525k [00:00<00:00, 1.18MB/s]

config.json: 100%   613/613 [00:00<00:00, 12.0kB/s]