```
!pip install transformers accelerate
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    Requirement already satisfied: regex!=2019.12.17 in /usr/local/lib/python3.10/dist-packages (from transformers) (2023.12.25)
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    Installing collected packages: nvidia-nvtx-cu12, nvidia-nvjitlink-cu12, nvidia-nccl-cu12, nvidia-curand-cu12, nvidia-cufft-cu12,
    Successfully installed accelerate-0.28.0 nvidia-cublas-cu12-12.1.3.1 nvidia-cuda-cupti-cu12-12.1.105 nvidia-cuda-nvrtc-cu12-12.1.
```

```
!pip install accelerate
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    Requirement already satisfied: accelerate in /usr/local/lib/python3.10/dist-packages (0.28.0)
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```

```python
from transformers import AutoTokenizer, pipeline, AutoModelForCausalLM
import torch

# Load tokenizer and model
model_name = "gpt2"
tokenizer = AutoTokenizer.from_pretrained(model_name)
model = AutoModelForCausalLM.from_pretrained(model_name)

# Determine device
device = torch.device("cuda" if torch.cuda.is_available() else "cpu")
print("Using device:", device)

# Move model to appropriate device
model.to(device)

# Define code generation pipeline
code_generation_pipeline = pipeline(
    "text-generation",
    model=model,
    tokenizer=tokenizer,
    device=device
)

def generate_code(text, max_length=150, num_return_sequences=1):
    """
    Generate code based on the given text description.

    Args:
    - text (str): Text description of the code to be generated.
    - max_length (int): Maximum length of the generated code.
    - num_return_sequences (int): Number of code snippets to generate.

    Returns:
    - List of generated code snippets.
    """
    output = code_generation_pipeline(text, max_length=max_length, num_return_sequences=num_return_sequences)
    generated_code = [out['generated_text'] for out in output]
    return generated_code

# Interactive interface
print("Welcome to the Code Generation Interface!")
print("Please provide a text description of the code you want to generate.")

while True:
    user_input = input("\nEnter a text description (or 'exit' to quit): ")

    if user_input.lower() == 'exit':
        print("Exiting the Code Generation Interface. Goodbye!")
        break

    generated_code = generate_code(user_input)

    print("\nGenerated Code:")
    for i, code in enumerate(generated_code):
        print(f"\nGenerated code snippet {i+1}:\n{code}")
```

```
Using device: cpu
Welcome to the Code Generation Interface!
Please provide a text description of the code you want to generate.

Enter a text description (or 'exit' to quit):  Define a function in Python that calculates the square root of a given number.
Truncation was not explicitly activated but `max_length` is provided a specific value, please use `truncation=True` to explicitly t
Setting `pad_token_id` to `eos_token_id`:50256 for open-end generation.

Generated Code:

Generated code snippet 1:
 Define a function in Python that calculates the square root of a given number.
```
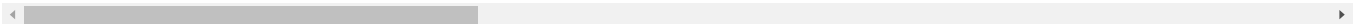
```
>>> from arity import Double, Multi-float >>> from math import numpy as np import ct from matplotlib.pyplot as plt >>> input = Doub
```

The above calculation converts the square root of the integer (not the

```
Enter a text description (or 'exit' to quit): exit
Exiting the Code Generation Interface. Goodbye!
```