Meta Al Codellama model

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Demonstration environment

Development Board: Raspberry Pi 5B

SD(TF)card: 64G (Above 16G, the larger the capacity, the more models can be experienced)

```
Raspberry Pi 5B (8G RAM): Run 8B and below parameter models
Raspberry Pi 5B (4G RAM): Run 3B and below parameter models
Raspberry Pi 5B (2G RAM): Run 0.5B and below parameter models, can't run
Codellama model
```

Code Llama is an open-source Large Language Model (LLM) specifically designed by the Meta Al department for understanding and generating code.

Model scale

Model	Parameter
Code Llama	7B
Code Llama	13B
Code Llama	34B
Code Llama	70B

Raspberry Pi 5B (8G RAM): Code Llama model testing using 7B parameters

Got Code Llama

Using the pull command will automatically pull the models from the Ollama model library.

```
ollama pull codellama:7b
```

```
File Edit Tabs Help

pi@raspberrypi: S ollama pull codellama:7b

pulling manifest

pulling 3627c2ebbeea... 180%

pulling 58067c3e5seb... 180%

pulling 2e0493f67dec... 180%

pulling 7f6a57943a8s... 180%

pulling 31652cac7323... 180%

verifying sha256 digest

writing manifest

removing any unused layers

success

pi@raspberrypi: S $

### A **

##
```

Use Code Llama

Run Code Llama

If the system does not have a running model, the system will automatically pull the Code Llama 7B model and run it.

```
ollama run codellama:7b
```

Dialogue

```
Write me a function that outputs the fibonacci sequence
```

The time to reply to the question is related to the hardware configuration, please be patient.

```
File Edit Tabs Help

pi@raspberrypi:~ $ ollama run codellama:70

>>>> Write me a function that outputs the fibonacci sequence

Here is a function in Python that calculates and prints the first 10 numbers of the Fibonacci sequence:

def fib(n):
    if n <= 1:
        return n
    else:
        return fib(n-1) + fib(n-2)

print([fib(i) for i in range(1, 10)])

This function uses a recursive approach to calculate the Fibonacci sequence. It takes an integer 'n' as input and returns the 'n'-th number of the Fibonacci sequence. The function has a base case where 'n' <= 1', in which case it simply returns 'n' otherwise, it calculates the result for 'fib(n-1)'
and 'fib(n-2)', adds them together, and returns the result.

The function also uses a list comprehension to print the first 10 numbers of the Fibonacci sequence. The list comprehension creates a new list containing the result of calling the 'fib' function on each number in the range from 1 to 10.

Here is an example of how you can use this function:

print(fib(5)) # prints 5

print(fib(fib(7)) # prints 5

print(fib(fib(7)) # prints 13

print([fib(1)) for i in range(1, 10)]) # prints [0, 1, 1, 2, 3, 5, 8, 13, 21, 34]

>>> Send a message (/7 for help)
```

End conversation

You can end the conversation by using the shortcut key 'Ctrl+d' or '/bye'.

Reference material

Ollama

Website: https://ollama.com/

GitHub: https://github.com/ollama/ollama

Code Llama

Ollama Model: https://ollama.com/library/codellama

GitHub: https://github.com/meta-llama/codellama