DIFF BETWEEN

32 BIT VS 64 BIT

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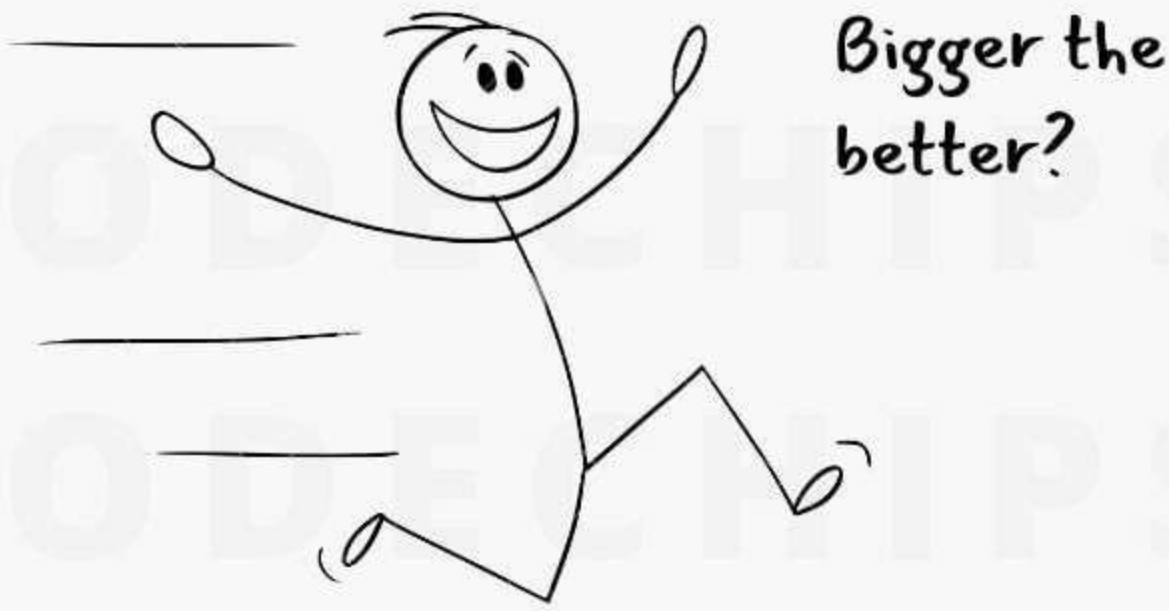
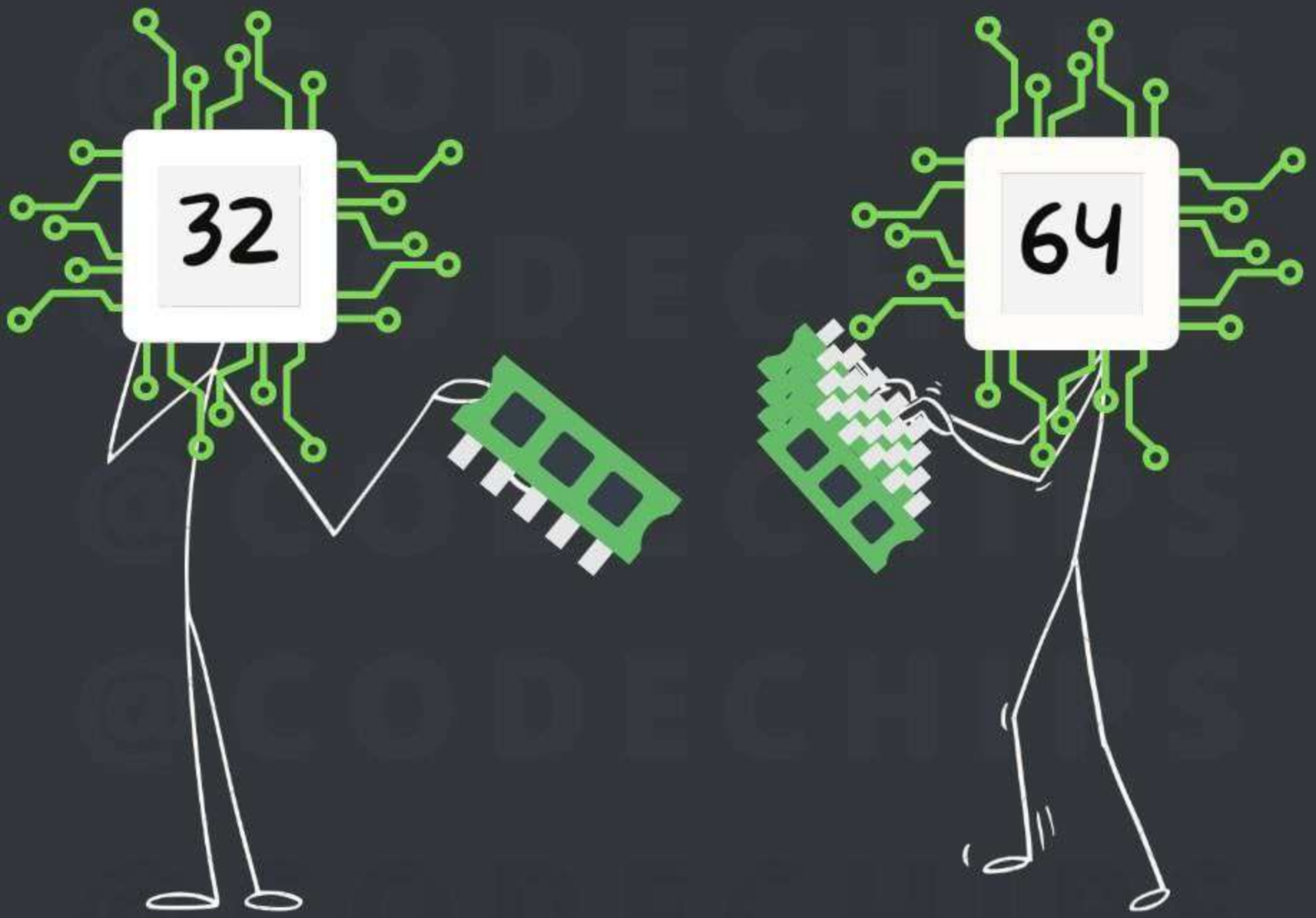
We often find hardwares and software in **32** and **64** bit versions

But what do they actually mean?

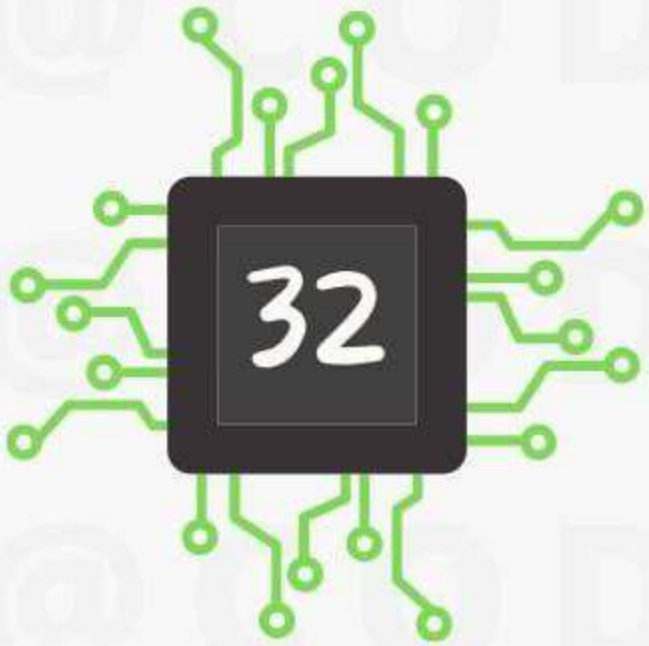


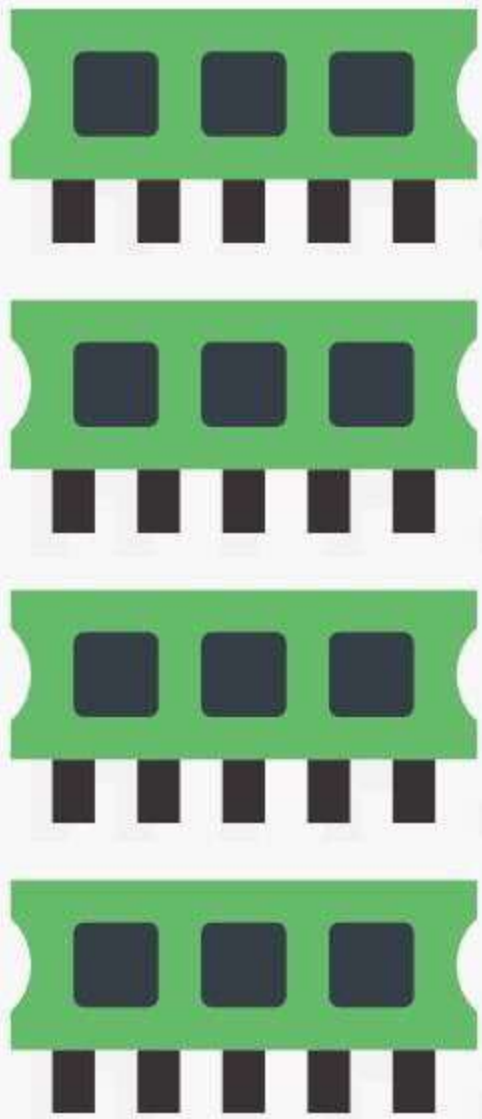
The difference is the way it
handles memory



A 32-bit system can access 2^{32} memory addresses, i.e., **4 GB of RAM**

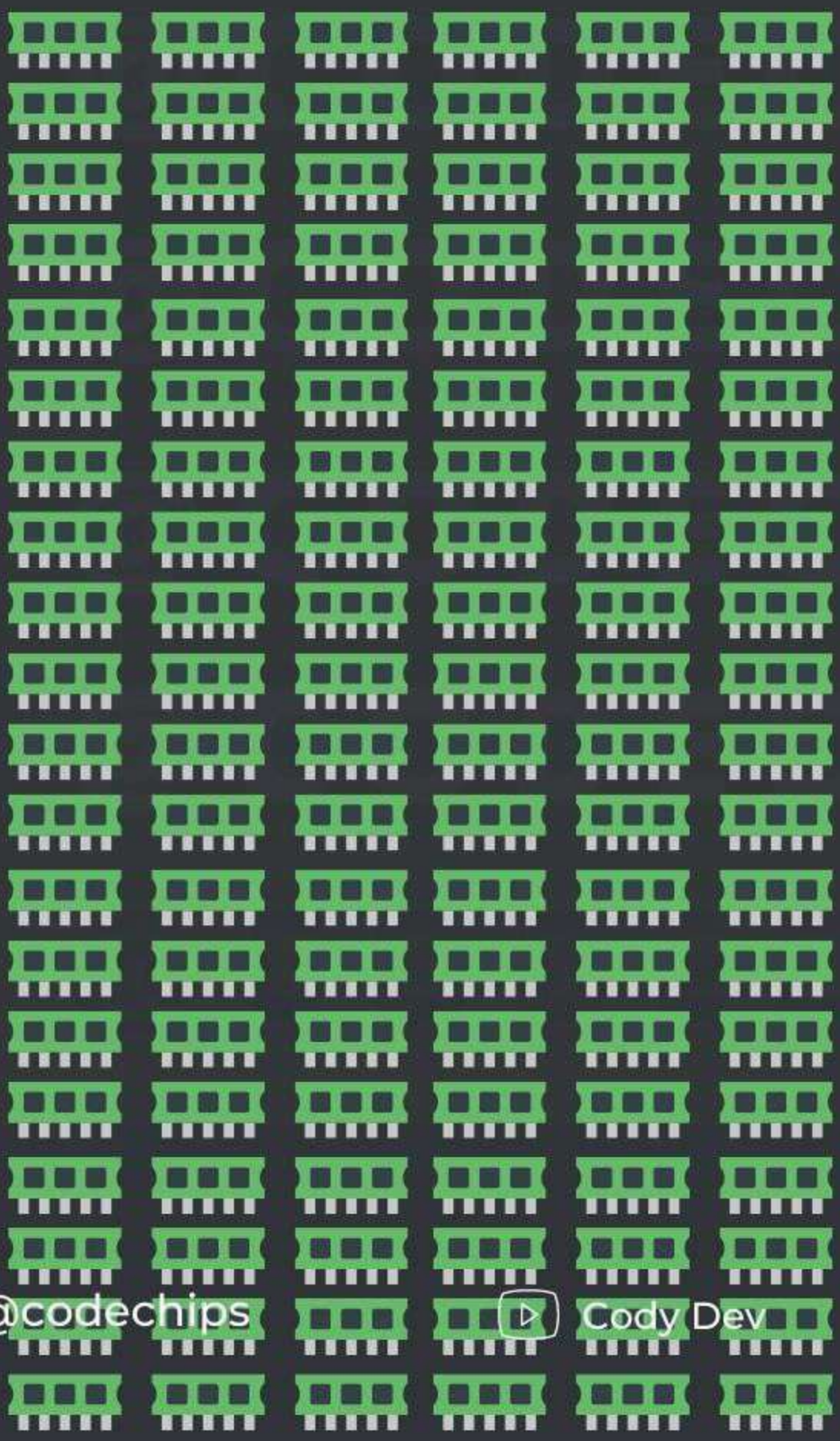
It can also access more than 4 GB of RAM

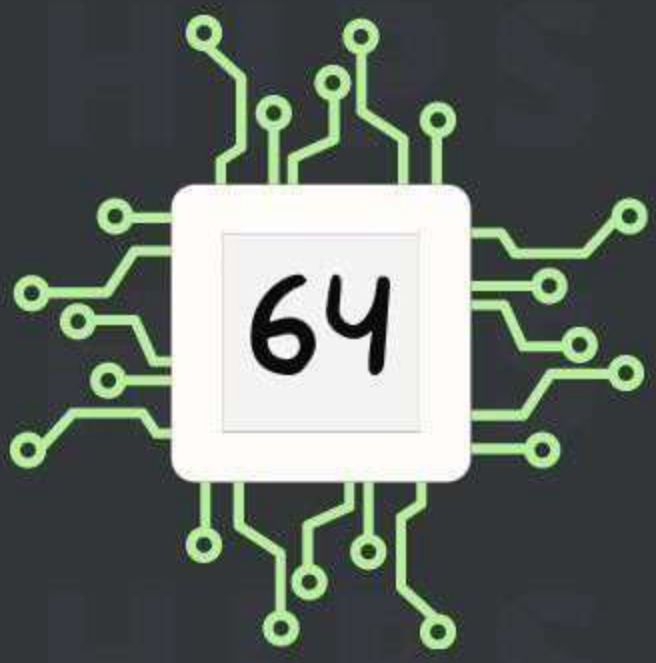




A 64-bit system can access 2^{64} memory addresses, i.e., 18-Quintillion bytes of RAM

In short, any amount of memory greater than 4 GB can be easily handled by it.





Thats 1,800,000,000 GB
Seems like unlimited!

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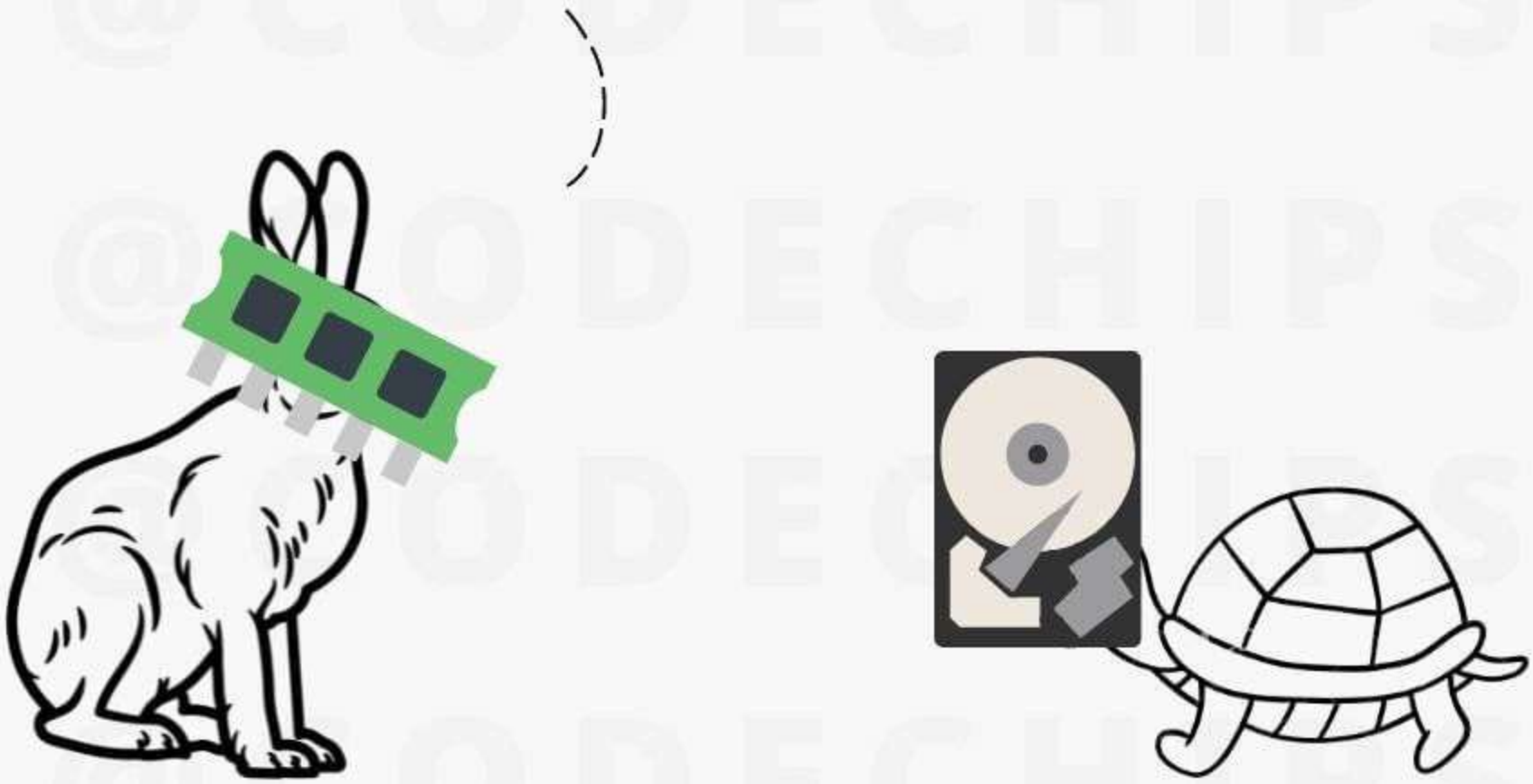
PERFORMANCE?

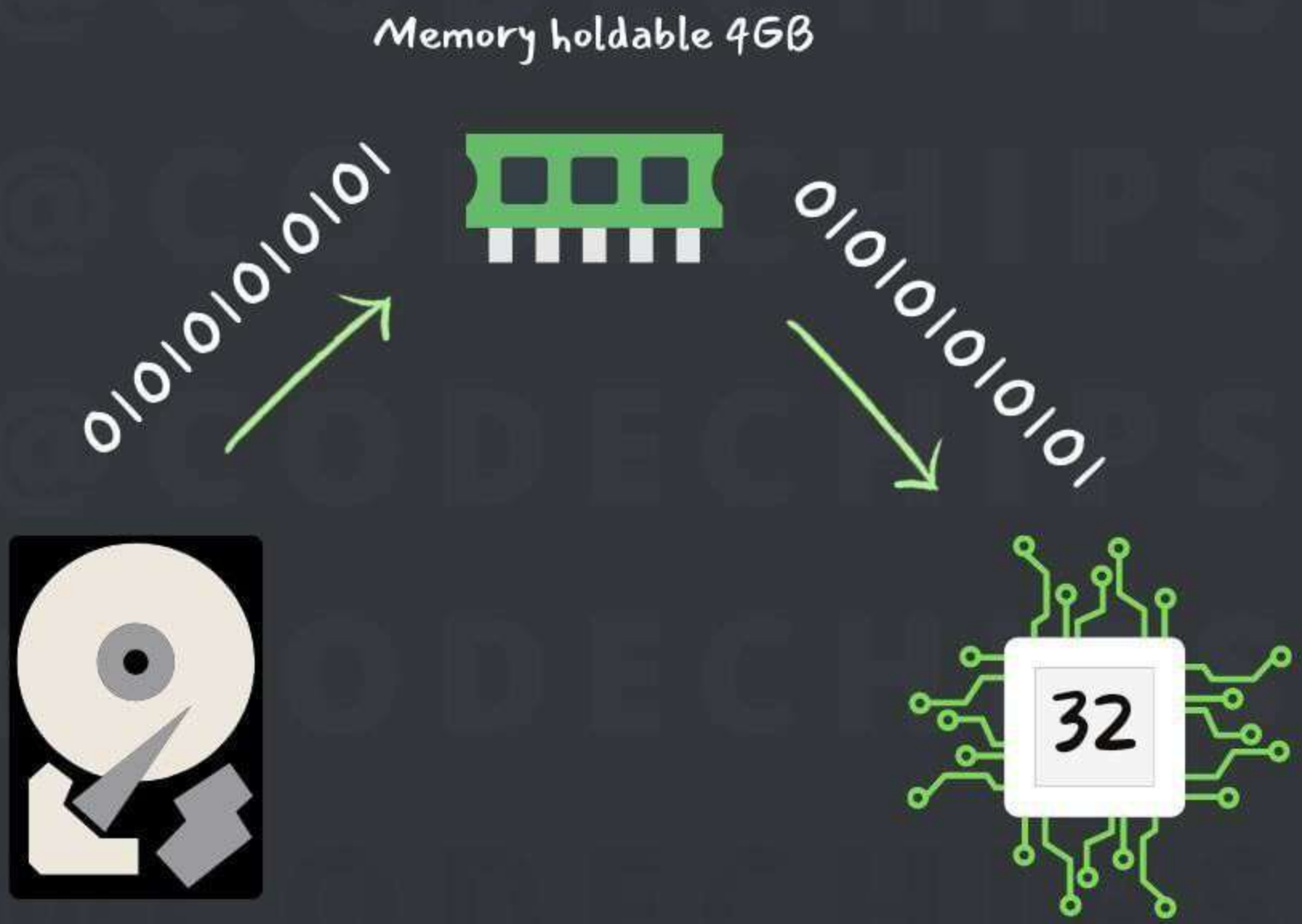
The Speed of RAM is much **higher** than the hard disk

A program needs to be loaded on to the RAM first



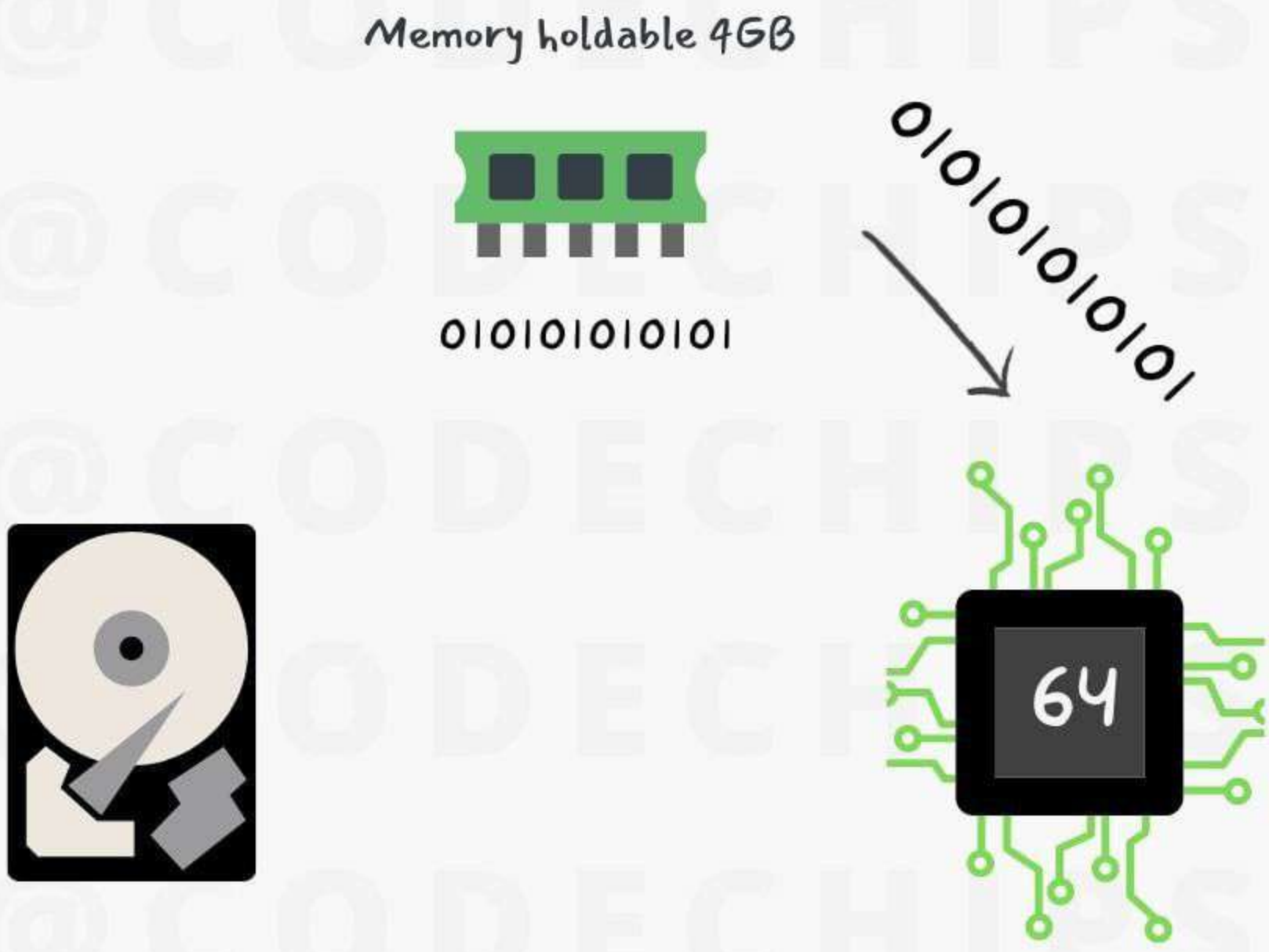
In 32-bit system more data is stored from the slower **hard drive to the faster RAM** for the CPU to access it

to compensate for low memory



But in a 64-bit system, it can store more than 4GB. So it stores **more data on the Faster RAM**

making it run a lot faster



This makes the 64-bit system much faster than the 32-bit system