

How DRAM memory works - Quiz

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How DRAM memory works - Quiz Ideas

- 1) What is the most common operation involving memory happening inside a computer when you load a program or video game?
 - A. Calculating mathematical equations
 - B. Copying data from SSD to DRAM
 - C. Rendering graphics
 - D. Sending data to the internet
- 2) How much faster is accessing data from DRAM compared to SSD?
 - A. 30 times faster
 - B. 300 times faster
 - C. 3000 times faster
 - D. 30,000 times faster
- 3) What is the capacity difference between a typical DRAM memory module (stick) and a solid-state drive (SSD)?
 - A. DRAM holds more data than SSD
 - B. SSD holds more data than DRAM
 - C. Both hold the same amount of data
 - D. DRAM holds data permanently, SSD does not
- 4) What is prefetching in the context of computer operations?
 - A. Moving data before it's needed
 - B. Deleting unnecessary files
 - C. Compressing data to save space
 - D. Encrypting data for security
- 5) Why do video games have DRAM capacity requirements?
 - A. To store game data permanently
 - B. To access game data quickly during gameplay
 - C. To store leaderboard information permanently
 - D. To reduce the size of the game files
- 6) What are the two main components of the DRAM memory cell?
 - A. Capacitor and resistor
 - B. Transistor and diode
 - C. Capacitor and transistor
 - D. Resistor and diode

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- 7) What does a capacitor in a DRAM 1T1C memory cell store?
- A. One bit (binary digit) of data
 - B. Multiple bits (binary digits) of data
 - C. Resistance state
 - D. Magnetic fields
- 8) Why do DRAM capacitors need to be refreshed periodically?
- A. To increase storage capacity
 - B. To improve read/write speed
 - C. To reduce power consumption
 - D. To restore data due to charge leakage
- 9) What is the role of the sense amplifier in a DRAM cell?
- A. To store data
 - B. To isolate the capacitor
 - C. To connect the wordline and bitline
 - D. To amplify the voltage change on the bitline
- 10) True or False. In DRAM memory, rows, columns and banks are an addressing system used to select a specific set of bits to access.
- A. True
 - B. False
- 11) In the video, to ensure data is not lost, how often does the refresh operation occur for each bank in the DRAM mentioned?
- A. DRAM does not need refresh
 - B. Every 64 milliseconds
 - C. Every 1 second
 - D. Once a day
- 12) What is a row hit in DRAM? (Remember: row refers to a wordline)
- A. When a row is closed
 - B. When a row is damaged
 - C. When two rows are connected to each other
 - D. When a row is already open and can be accessed again

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