

# Binary Numbers Advanced Level

## Multiple choice questions

Question 1	Question 2	Question 3
<p><b>What is the primary reason why computers use the binary system?</b></p>	<p><b>How does the binary system represent numbers compared to the decimal system?</b></p>	<p><b>Why do computers use a fixed number of bits to represent numbers, even if fewer bits are needed?</b></p>
<p><b>A.</b> The binary system is the most efficient way to represent numbers, requiring the least amount of memory.</p> <p><b>B.</b> The binary system is the only system that can be used to represent information using electrical signals.</p> <p><b>C.</b> The binary system is easily implemented using logic gates, which are electronic circuits that can be either open or closed, mirroring the binary digits 1 and 0.</p> <p><b>D.</b> The binary system is the most intuitive system for humans to understand and use.</p>	<p><b>A.</b> The binary system uses powers of ten, while the decimal system uses powers of Two.</p> <p><b>B.</b> The binary system uses only two digits, 0 and 1, while the decimal system uses ten digits, 0-9.</p> <p><b>C.</b> The binary system uses a fixed number of bits to represent numbers, while the decimal system uses a variable number of digits.</p> <p><b>D.</b> The binary system uses a combination of letters and numbers, while the decimal system uses only numbers.</p>	<p><b>A.</b> This is a standard practice that ensures all computers use the same representation for numbers.</p> <p><b>B.</b> Using a fixed number of bits simplifies the process of storing and processing numbers.</p> <p><b>C.</b> This allows computers to represent larger numbers more efficiently.</p> <p><b>D.</b> This is a legacy practice from early computers that has not been updated.</p>



### Short-answer questions

1. What is the significance of understanding the binary number system for individuals interested in computer science or technology?
2. How does the binary system's use of powers of two differ from the decimal system's use of powers of ten?

### Open-ended questions

1. Computers use binary code to represent information. Consider how you use technology in your daily life. How does understanding the binary system change your perspective on the way you interact with computers and other devices?
2. Understanding the binary system is very important for anyone interested in computer science or technology. What are your own interests and aspirations? How might understanding the binary system help you achieve your goals?