**Why are Numbers 0-9 Assigned 48-57 in the ASCII Table?**

ASCII, the American Standard Code for Information Interchange, is a system from the 1960s that gave computers a way to represent text using numbers. Each character—letters, numbers, symbols, and some control codes—has a unique number. For example, the numbers ‘0’ through ‘9’ are assigned ASCII values from “48 to 57”. This specific range wasn’t random; it was chosen for practical reasons:

1. “Logical Order”: Assigning numbers in sequence from 48 to 57 keeps things straightforward for computers and programmers. To convert an ASCII code to a number, you just subtract 48. For example, ASCII code 53 becomes ‘5’ by subtracting 48.

2. “Room for Control Characters”: ASCII's first 32 values (0-31) are control characters like newline and tab. By starting digits at 48, ASCII left space for punctuation and other symbols without crowding the digits.

3. “Easy in Binary”: The binary pattern for ASCII digits starts with ‘0011,’ making it easier for computers to recognize and process. So, the code for ‘0’ is ‘00110000’ (48 in decimal), and ‘1’ is ‘00110001’ (49).

4. “Consistent Ranges”: The ASCII values for numbers, uppercase letters (65-90), and lowercase letters (97-122) are all grouped logically. This makes conversions and character handling much simpler in text processing.

5. “Clear Separation from Control Codes”: Keeping digits away from control characters (0-31) helps keep printable text characters distinct and easier to interpret.

To conclude, choosing 48-57 for ‘0’ to ‘9’ was a clever decision. It kept numbers easy to handle, fit logically with other character ranges and has influenced character encoding in computing ever since.