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chrat.s

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/**
 * chrat - retrieves the character at a given position in a string
 * @param x0: pointer to the string
 * @param x1: index of the character to retrieve
 * @return w0: the character at the specified position
 *
 * This function retrieves the character at the index specified by x1 in the
 * string pointed to by x0. If the index is out of bounds, the function returns
 * the null terminator.
 *
 * Registers used: x0, x1, x2, w0, w3
 * Registers saved: none
 */

.text
.global chrat
chrat:
    // Load the maximum number of characters to count into x2 (1 character)
    mov x2, #1

    // Compute the memory address of the character at the specified index
    add x0, x0, x1

    // Load the character from memory into w0
    ldrb w0, [x0]

    // If the character is the null terminator, return it
    cbz w0, done

    // Otherwise, return the character
    ret

done:
    // Return the null terminator
    mov w0, #0
    ret
```