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<pre> /** * lstindxofstr - Returns the index of the last occurrence of string str in a given String. * * This function searches for the last occurrence of the specified string str in the target string, * starting from the specified index "fromIndex" and working backwards. The function returns the * index of the last occurrence of the string str in the target string after the specified index * "fromIndex". The search starts from the index x2 in the target string, where x2 is the specified * index "fromIndex". The function returns -1 if the string str is not found in the target string. * * @param x0: Address of the target string to search. * @param x1: Address of the string to find in the target string. * @param x2: Index to start the search at. * @return x0: Integer index of the last occurrence of string str in the target string after the * specified index "fromIndex". If the string is not found, returns -1. * * Registers used: x0, x1, x2, x3, w4, w5, w6, lr * Registers saved: none */ .text .global lstindxofstr lstindxofstr: // Save the return address and the input parameters str lr, [sp, #-16]! stp x0, x1, [sp, #-16]! // Get the length of the target string bl length mov x2, x0 // Set the last index of the target string sub x2, x2, #1 ldp x1, x0, [sp], #16 add x2, x2, x1 // Get the length of the string to find bl length mov x3, x0 // Set the last index of the string to find sub x3, x3, #1 ldp x0, x1, [sp], #16 add x3, x3, x1 // Load the last character of the string to find ldrb w4, [x3], #-1 loop: // Compare the current index with the starting index cmp x2, x0 // If the current index is less than the starting index, then the string was not found b.lt cherror </pre>		

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<pre> // Load the byte at the current index ldrb w5, [x2], #-1 // Compare the byte with the last character of the string to find cmp w4, w5 // If the byte matches the last character of the string to find, then the string was found b.eq chfound // If the byte does not match the last character of the string to find, then continue searching backwards b loop chfound: // Save the last index of the target string and the last index of the string to find stp x2, x3, [sp, #-16]! sloop: // Compare the current index of the string to find with the starting index of the string to find cmp x3, x1 // If the current index of the string to find is less than the starting index of the string to find, // then the string was found b.lt strfound cmp x2, x0 b.lt strerror ldrb w5, [x2], #-1 ldrb w6, [x3], #-1 cmp w5, w6 b.eq sloop ldp x2, x3, [sp], #16 b loop strfound: // Free the stack space used for storing the pointers to the strings add sp, sp, #16 // Add 1 to the index of the found string to get the last occurrence add x2, x2, #1 // Calculate the index of the last occurrence relative to the start of the string sub x0, x2, x0 // Subtract 1 to convert from 1-based indexing to 0-based indexing sub x0, x0, #1 // Return the index of the last occurrence ret // Handle the case where the search character is not found strerror: // Free the stack space used for storing the pointers to the strings add sp, sp, #16 // Handle the case where the search character is not a valid ASCII character cherror: // Set the return value to -1 mov x0, #-1 </pre>		

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// Return the value -1
ret
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