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inprdr.s

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/**
 * inprdr - Asks the user to input some value or string and stores it using malloc.
 *
 * @return x0: Pointer to the input buffer.
 *
 * Registers used: x0, w8, lr
 * Registers saved: lr
 */

.text
.global inprdr
inprdr:
    // Save return address
    str lr, [sp, #-16]!

    // Read from stdin into a buffer
    mov x0, #0
    ldr w8, =20                // Declare the buffer size 20
    bl malloc                  // Allocate memory and get the pointer
in x0
    str x0, [sp, #-16]!        // Store the pointer on the stack

    mov x2, #20                // Set size of buffer
    mov x8, #63                // Linux syscall number for read STDIN_
FD
    mov w1, w0                  // Move the malloc pointer into w1
    mov w0, #0                  // STDIN_FD is file descriptor 0
    svc 0                       // Linux syscall to read from STDIN_FD

    ldr x0, [sp], #16          // Retrieve the malloc pointer from stack
ck

    // Restore return address and return
    ldr x30, [sp], #16
    ret

```