```c
/**
 * Lab 8 - Q. 1 - GVSU
 *
 * Accepts a username input of any size.
 *
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 */
#include <stdio.h>
#include <stdlib.h>
#include <string.h>

#define SIZE 16

int main () {
    unsigned char *username;
    username = malloc(SIZE);
    int index = 0;
    int size_of_username = SIZE;
    printf ("Please input username: ");


    do {
        char c = fgetc(stdin);

        if (c == '\n')
                break;
        if (index == (size_of_username-1))
        {

                // copy the username to a buffer
                unsigned char *buffer = malloc(size_of_username);
                int i = 0;
                while (i < size_of_username)
                {
                        buffer[i] = username[i];
                        i++;
                }

                // double username size
                username = malloc(size_of_username*2);

                // copy buffer back into username
                i = 0;
                while (i < size_of_username)
                {
                        username[i] = buffer[i];
                        i++;
                }

                size_of_username = size_of_username * 2;
        }

        username[index] = c;
        index++;

        } while (1);
    printf ("you entered: %s\n", username);
    free (username);

    return 0;
}
```