

Remove Duplicate character from string

```
#include <stdio.h>
#include <stdlib.h>
#include <string.h>
#define COUNT 256

char *removeDuplicates(char *str)
{
    int hash[COUNT] = {0};
    int currentIndex, finalIndex = 0;
    char temp;
    for(currentIndex = 0; str[currentIndex]; currentIndex++)
    {
        temp = str[currentIndex];
        if(hash[temp] == 0)
        {
            hash[temp] = 1;
            str[finalIndex++] = str[currentIndex];
        }
    }
    str[finalIndex] = '\0';
    return str;
}

int main()
{
    char str[100];
    printf("Enter string");
    scanf("%s", str);
    printf("The final string after remove of duplicates is = %s\n",
        removeDuplicates(str));
}
```

Time complexity: $O(n)$

Space complexity: $O(k)$ where $k = 256$