CSA0275-SLOT A.docx[1].pdf
Code Playground | Programiz PF
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Programiz PRO
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main.c
main.c
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33°C
Haze
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ENG
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13:33
23-02-2024

```c
#include <stdio.h>
int median(int arr[], int size) {
    if (size % 2 == 0)
        return (arr[size / 2] + arr[size / 2 - 1]) / 2;
    else
        return arr[size / 2];
}
int medianOfSortedArrays(int arr1[], int arr2[], int size) {
    int med1, med2;

    if (size <= 0)
        return -1;

    if (size == 1)
        return (arr1[0] + arr2[0]) / 2;

    if (size == 2)
        return (arr1[0] + arr2[0] + arr1[1] + arr2[1]) / 4;

    med1 = median(arr1, size);
    med2 = median(arr2, size);

    if (med1 == med2)
```

```
/tmp/a.out
The median of the two sorted arrays is: 3
```

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```c
#include <stdio.h>
#include <stdlib.h>
#include <string.h>
static int length_of_longest_substring(char *str1)
{
   int offset[128];
   int substr_max_len = 0;
   int len = 0;
   int index = 0;
   memset(offset, 0xff, sizeof(offset));
   while (*str1 != '\0') {
       if (offset[*str1] == -1) {
           len++;
         }
                   else {
           if (index - offset[*str1] > len)
                                     {
               len++;
           }
                            else
                            {
                len = index - offset[*str1];
           }
       }
       if (len > substr_max_len)
                  {
```

```
/tmp/a.out

Original String: abcabcbb
Length of the longest substring without repeating cha
racters: 3
```

CSA0275-SLOT_A.docx
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14:28
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```c
#include <stdio.h>
#include <limits.h>
int minJumps(int arr[], int n) {
    if (n <= 1)
        return 0;

    if (arr[0] == 0)
        return -1;

    int maxReach = arr[0];
    int steps = arr[0];
    int jumps = 1;
    for (int i = 1; i < n; i++) {
        if (i == n - 1)
            return jumps;

        maxReach = (i + arr[i] > maxReach) ? i + arr[i] : maxReach;

        steps--;

        if (steps == 0) {
            jumps++;

            if (i >= maxReach)
                return -1;
```

```
/tmp/a.out
Minimum number of jumps needed: 2
```

C:\Users\Byalla Vishnu\Desktop\int to roman numbers.c - [Executing] - Embarcadero Dev-C++ 6.3

int to roman numbers.c

```c
#include <stdio.h>
#include <string.h>
char* intToRoman(int num) {
    char* romanNumerals[] = {"M", "CM", "D", "CD", "C", "XC", "L", "XL", "X", "IX", "V", "IV", "I"};
    int values[] = {1000, 900, 500, 400, 100, 90, 50, 40, 10, 9, 5, 4, 1};
    int symbolsCount = sizeof(romanNumerals) / sizeof(romanNumerals[0]);
    char* result = (char*)malloc(20 * sizeof(char));
    strcpy(result, "");
    for (int i = 0; i < symbolsCount; i++) {
        while (num >= values[i]) {
            strcat(result, romanNumerals[i]);
            num -= values[i];
        }
    }
    return result;
}
int main() {
    int num;
    printf("Enter an integer: ");
    scanf("%d", &num);

    char* roman = intToRoman(num);
    printf("Roman numeral: %s\n", roman);

    free(roman);
    return 0;
}

```

C:\Users\Byalla Vishnu\Deskto

```
Enter an integer: 3
Roman numeral: III

--------------------------------
Process exited after 11.6 seconds with return value 0
Press any key to continue . . .
```

Line	Col	File	Message
		C:\Users\Byalla Vishnu\Desktop\int to rom...	In function 'intToRoman':
7	27	C:\Users\Byalla Vishnu\Desktop\int to roman nu...	[Warning] implicit declaration of functio
7	27	C:\Users\Byalla Vishnu\Desktop\int to roman nu...	[Warning] incompatible implicit declara
3	1	C:\Users\Byalla Vishnu\Desktop\int to roman nu...	[Note] include '<stdlib.h>' or provide a c

Line: 25 Col: 18 Sel: 0 Lines: 28 Length: 809 Insert Don

C:\Users\Byalla Vishnu\Deskto
C:\Users\Byalla Vishnu\Desktop\sort an array 0s,and 1s.c - [Executing] - Embarcadero Dev-C++ 6.3
File
Edit
Search
View
Project
Execute
Tools
AStyle
Window
Help
TDM-GCC 9.2.0 64-bit Release
(globals)
Project
Clas
sort an array 0s,and 1s.c
Compiler
Resources
Compile Log
Debug
Find Results
Console
Close
Abort Compilation
Shorten compiler pat
Search
ENG
IN
12:33
23-02-2024

```
Before sorting: 2 0 2 1 1 0
After sorting: 0 0 1 1 2 2

--------------------------------
Process exited after 9.796 seconds with return value 0
Press any key to continue . . .
```

```c
#include <stdio.h>
void swap(int *a, int *b) {
    int temp = *a;
    *a = *b;
    *b = temp;
}
void sortColors(int* nums, int numsSize) {
    int low = 0;
    int mid = 0;
    int high = numsSize - 1;\
    while (mid <= high) {
        switch (nums[mid]) {
            case 0:
                swap(&nums[low++], &nums[mid++]);
                break;
            case 1:
                mid++;
                break;
            case 2:
                swap(&nums[mid], &nums[high--]);
                break;
        }
    }
}
void printArray(int* nums, int numsSize) {
    for (int i = 0; i < numsSize; i++) {
        printf("%d ", nums[i]);
    }
```

```
- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\Byalla Vishnu\Desktop\sort an array 0s,and 1s
- Output Size: 323.8857421875 KiB
- Compilation Time: 0.30s
```

Line: 24 Col: 2 Sel: 0 Lines: 41 Length: 986 Insert Done parsing in 0.047

C:\Users\Byalla Vishnu\Deskto
C:\Users\Byalla Vishnu\Desktop\kth largest element.c - [Executing] - Embarcadero Dev-C++ 6.3
File Edit Search View Project Execute Tools AStyle Window Help
TDM-GCC 9.2.0 64-bit Release
(globals)
Project Clas
sort an array 0s,and 1s.c
kth largest element.c
Compiler Resources Compile Log Debug Find Results Console Close
Abort Compilation
Shorten compiler pat
Line: 46 Col: 7 Sel: 0 Lines: 48 Length: 1287 Insert Done parsing in 0.015
Search
ENG IN
13:34
23-02-2024

```
The 2th largest element is: 2

--------------------------------
Process exited after 4.875 seconds with return value 0
Press any key to continue . . .
```

```c
#include <stdio.h>
void swap(int* a, int* b) {
    int temp = *a;
    *a = *b;
    *b = temp;
}
int partition(int arr[], int low, int high) {
    int pivot = arr[high];
    int i = low - 1;
    for (int j = low; j < high; j++) {
        if (arr[j] <= pivot) {
            i++;
            swap(&arr[i], &arr[j]);
        }
    }
    swap(&arr[i + 1], &arr[high]);
    return i + 1;
}
int quickSelect(int arr[], int low, int high, int k) {
    if (low <= high) {
        int pivotIndex = partition(arr, low, high);

        if (pivotIndex == k - 1) {
            return arr[pivotIndex];
        } else if (pivotIndex > k - 1) {
            return quickSelect(arr, low, pivotIndex - 1, k);
        } else {
```

```
- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\Byalla Vishnu\Desktop\kth largest element.exe
- Output Size: 323.9111328125 KiB
- Compilation Time: 0.27s
```