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|  | **COLLEGE OF COMPUTING AND INFORMATION SCIENCES** | | |
| **Assignment # 01** | | |
| **Course Title** | Operating System | **Total Marks** | 10 |
| **Date** |  | **Class ID** |  |
| **Student Id** |  | **Student Name** |  |

**Instructions:**

* Copied work and late submission will be marked as ZERO.
* Attach your code and screenshot of your output in this file.
* Submit hardcopy of your assignment on given deadline.

**Submission Deadline: 26-07-2022**

**Question 1:**

Write a program that allocate memory for array and print the elements of array (size and elements of array should be user defined), search the number form array using any searching algorithm.

Next, reallocate the size of array and print the array elements. For memory reallocation write down your own **realloc** function using **malloc** and **free** function.  
Suppose if your array size is of 5 indexes then the minimum memory required is of 20bytes. After reallocation you can increase or decrease the memory. If the memory size is incremented print 0 at new indexes or if the memory size is decremented, then remove the indexes from array.

**[Add code and screenshot of output here]**

**Question 2:**

Write a program that takes an integer array from user as an input and divide that array into 3 parts. Each part will be given to the thread and finds the smallest value from that. In the end your program should return 3 smallest numbers from array.

**Sample Input:**

Array: { 5,2,1,4,7,89,6,3,2,5,11,0,5,9,7,6,8,10 }

**Sample Output:**

Thread 1: {5, 2, 1, 4, 7, 89} -> smallest = 1

Thread 2: {6, 3, 2, 5, 11, 0} -> smallest = 0

Thread 3: {5, 9, 7, 6, 8, 10} -> smallest = 5

**[Add code and screenshot of output here]**