

- 1) You have an array of 100 element contain all number from 0 to 100 except one number, write c function to find the missed number (try in  $O(n)$ ).
- 2) You have an array of 101 element contain all number from 1 to 100, so one number is repeated, write c function to find the repeated number (try in  $O(n)$ ).
- 3) You have an array of integers all numbers in the array repeated 2 times except one number repeated one time only find this number (try  $O(n)$ ).  
array like {1,2,4,66,2,1,500,66,7,7,500}->4.
- 4) repeat Q3 but array is sorted (try less than  $O(n)$ ).  
array {1,1,2,2,4,4,70,70,73,80,80,81,81} ->73.
- 5) You have an array of integers contain Mono numbers only (from 0 to 9)  
, write c function to find the most repeated number (try in  $O(n)$ ).
- 6) Write c function to find the first repeated char in string (try in  $O(n)$ ).  
"ahmed selem" ->e.
- 7) Write c function to copy string to string without copy repeated characters  
try ( $O(n)$ ). "ahmed selem kamel"->"ahmed slk".
- 8) . Write C function to take an array and if it finds a number "given" makes the previous elements in a new array and returns it (try to optimize).
- 9) Write a c function to swap the two bytes of a short int ( $n=0xFE20 \rightarrow 0X20FE$ )  
use 2 methods.