Name……………………………..ID………………………….Section…..........................

Module   :   **CS211 Algorithms and Data Structures 2**
QUIZ   :   **01**
Date   :   **08 April 2024**
Scores   :   **10 (weight in course grades 10%)**

Answer the following short questions. [10 Marks]

1) Merge sort algorithm follows the divide-and-conquer approach. Briefly describe how it implements the divide-and-conquer approach with an example using the array shown below?

1	2	3	4	5	6	7	8
12	4	7	5	14	6	11	2

[5 marks]

Answers:

2) Given the employee IDs and Names in the table below, demonstrate how to store their names using a hash table? Use the hash function $h(k) = k \% m$, where k is the key and $m = 10$ is the size of the hash table. If a collision occurs in the hash table, resolve it using chaining.

Hint: In chaining, each slot of the hash table array contains a linked list (double linked).

key	value
ID	**Name**
106	"Chen"
362	"Li"
428	"Lu"
150	"Wang"
532	"Ting"

[5 marks]

Answers: