National University of Computer and Emerging Sciences, Lahore Campus

Course:	Programming Fundamentals	Course Code:	CS 118
Program:	BS(Computer Science)	Semester:	Fall 2020
Due Date	11-Nov-2020 at 11:59 pm	Total Marks:	15
Section:	CS-1G	Page(s):	1
Type:	Homework 1	Weightage	2-2.5%

Important Instructions:

1. Submit all questions in a single cpp file named as your roll number, i.e. 20_1111.cpp
2. You are not allowed to copy solutions from other students. We will check your code for plagiarism using plagiarism checkers. If any sort of cheating is found, negative marks will be given to all students involved.
3. Late submission of your solution is not allowed

a. Write a function **mode** which is passed as parameter an integer array (the array can have any size, so take the array size as a parameter in the function). The function will then calculate the mode of the array, i.e., the most repetitive element. The return type of this function will be void. The most repetitive number and its count (frequency) will be returned via two variables passed as references to the function. For example, if the array is 5, 6, 4, 3, 2, 7, 8, 1, 2, 2, then your function will determine 2 as mode and 3 as its count (frequency). **(10 marks)**

b. Write a function **arrToVar** which is passed as parameter an array (the array can have any size, so take the array size as a parameter in the function). The array will then convert the digits in the integer array into an integer number. For example, the array {6, 7, 9, 4} will be converted into 6794 (an integer number). The converted integer number will be returned via the return statement. Assume that each element in the array will be a single-digit integer. **(5 marks)**

Also write a main function, and test both of your functions in the main function. You can hardcode the arrays to be passed to functions (no need to take input from the user).