**Lab Final Examination**

**Semester: Fall 2020 Course Code: CSE 104 Section: 201DA Time: 1 hour 30 minutes**

**Marks: 30**

1. Take n numbers in an array. Do the following operations 10
   1. Find how many numbers in the array are greater than the average value of the array elements.
   2. Reverse the array without using any library function.

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| Sample Input | Output |
| Array element: 4  10 20 30 40 | Numbers greater than average value: 2  Reversed array: 40 30 20 10 |
| Array element: 5  1 2 3 4 65 | Numbers greater than average value: 1  Reversed array: 65 4 3 2 1 |

1. Two strings s1 and s2 will be called “**Twin String**” if the following conditions are matched: 10

* If one of the strings have p distinct vowels, the other will contain the missing 5-p vowels from the vowel set, v = {a,e,i,o,u}
* Both of them will be of same length.

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| Sample Input | Output |
| S1: national  S2: umbrella | Twin String |
| S1: education  S2: notorious | Twin String |
| S1: bangladesh  S2: pakistan | Not Twin String |

1. Take 3 digit number from user. Split the digits of the number using a user defined function splitter(). Find the factorial of each digit using a user defined function find\_factorial(). Finally, print the sum of the factorials using anther user defined function calculate\_sum(). 10

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| Sample Input | Output |
| Input Number: 123 | Output:9 |
| Input Number: 125 | 123 |