National University of Computer & Emerging Sciences, Karachi
Spring 2020 CS-Department
Mock exam 11th June 2020, 11:00 am – 12pm

Course Code:CS-118	Course Name: Programming Fundamentals
Instructor Name :Tania Iram	
Student Roll No:	Section No:

Instructions:

- There are 2 questions on one page. Give to the point answer
- Attempting of Question Should be in order otherwise plenty of Marks deduction will be applied
- Write solution on a paper, write your id on each page and submit picture of each numbered page
- Overwriting is subjected to marks deduction. Do neat and clean work

Attempt Time: 40 minutes. Upload time 15 minutes.
[50 Total Points]

Question 1: **[10 Points]**

An integer *n* is divisible by 9 if the sum of its digits is divisible by 9.
Develop a program to display each digit, starting with the rightmost digit.
Your program should also determine whether or not the number is divisible by
9. Test it on the following numbers:

```
n = 154368
n = 621594
n = 123456
```

Hint: Use the % operator to get each digit; then use / to remove that digit.
So 154368 % 10 gives 8 and 154368 / 10 gives 15436. The next digit extracted
should be 6, then 3 and so on.

Use an integer array to hold these 3 numbers and send a pointer to array to a function to calculate above divisibility.

Question 2: **[10 Points]**

Write a C program to produce the following output by passing binary number string pointer to pattern_function () and display pattern.
E,g.If the binary string send is 5 characters long i.e. '11000'. The loop will run for 5 lines printing the pattern.

```
A

1       1       //first two characters of string

C       C       C

0       0       0       0       //remaining characters of string, repeat last one

E       E       E       E       E
```

No hard coding allowed use nested loops, string length function , ascii values and conditions.