# National University of Computer and Emerging Sciences, Lahore Campus

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| | Course Name: | Programming Fundamentals | Course Code: | CS 118 |
| | Program: | BS(CS) | Semester: | Fall 2018 |
| | Duration: | 2 hr | Total Points: | 30 |
| | Paper Date: | 11/8/2018 | Weight | 25 |
| | Section: | H | Page(s): | 2 |
| | Exam Type: | Lab Mid | | |

**Instruction/Notes:** Taking some illegal online/offline help (i.e. cheating) might earn you an **F** grade in the entire course.

**Question1: (5 marks)**

Write a program to calculate the place value of digit in an integer. Your program would take 2 integers from the user, an integer between 0 and 10 million, and another integer – a single digit in the first number. Your program would then output the place value of that digit in the number.
**For example**, if the user inputs an integer *56918* and you want to determine the place value of *6*, the output would be "Thousands".
You can include a check for whether that specific digit is present or not.
*Sample Units are; tens; hundreds; thousands; ten thousands; hundred thousand; millions.*

**Question 2: (5 Marks)**

Write a program that prints a triangular pattern. The program asks the user to enter the height of the triangle and the character to use. For example:

```
Enter height of pattern:        5
Enter character for pattern:    t
t
t t
t t t
t t t t
t t t t t
t t t t t
t t t t
t t t
t t
t
Press any key to continue . . .
```

## Question 3: (10 Marks)

You are given an array of integers and a number K. You have to find the any continue sub-array whose elements sum is K. Please note that, the array may have positive, negative, and zeros as its element.

**Example:**

Input: [7 0 9 -10 0 789], K = 0

Output: Array from index 1 to Index 1.

Input: [1 2 3 5 -10] K = 0

Output: Array from Index 1 to Index 4.

If K = -2, Output would have been SubArray from Index 2 to Index 4.

GOOD LUCK ☺