COMPUTER PROGRAMMING

BATCH – A, B & C
[WEDNESDAY OCTOBER 11, 2017]   DEADLINE: OCTOBER 13, 2017 @ 23:59 HRS

ASSIGNMENTS – 8   CODE: assign08

NOTES: You must use gcc compiler under Ubuntu OS

i) Please carefully read all assignment problems and answer in the same c file.
ii) Create a .c file by strictly following the file name convention: If your roll number is 181 & code is assign08, file name should be 181-assign08.c
iii) If you do not follow the above instruction, your file will not be evaluated

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PROBLEMS   **[Total Marks: 20]**

1) **[Marks: 6]**
Write a C program to find the maximum repeating sub-array of the following character array: asdfgkjikuhygtfrdeasdferwqwfrasdfgvcxzsedwrfgvcxasdfghtyuiokjnb For example, the sub-array "asdfg" is the maximum repeating sub-array (it is of length 5 and occurs 3 times). Print the starting and ending index of this repeating sub-array in the given array.

2) **[Marks: 5]**
Use space as a delimiter. Now split the following paragraph into words and find the number of times each word occurs in the following text:

Ram loves playing cricket and he is very much curious to know about cricket players. His cricket knowledge is far better than his friends and Ram never misses to watch any cricket match either it could be a one day match or test match or a T20 match

Here the word "Ram" occurs 2 times. So the output is to be printed as: Ram -> 2 Similarly print all words and their counts (one word and its count per line).

3) **[Marks: 5]**
Assume the matrix of size 7 x 7 as given below:

i	r	w	t	k	u	y
o	v	w	e	g	y	r
h	w	e	i	j	x	y
t	b	f	p	d	z	m
n	c	v	m	n	l	v
r	d	c	r	u	s	v
w	e	r	w	q	a	s

Identify all vowels in this matrix and print their index. Additionally change the case of these letters (from smaller case to upper case letters). For example, the first element is a vowel and its position is (0, 0). This element, 'i' has to be changed to 'I'. Print all vowels and print their positions and finally print the updated matrix in which all vowels are changed to upper case letters.

You may use a function to check whether the given character is a vowel or not?

4) **[Marks: 4]**
Write separate function to perform each of the following tasks:

a) Fibonacci series upto n elements (n is randomly chosen in [20, 30]) using for loop
b) Count the number of odd digits in a large integer (randomly choose any integer > 100,000,000)