DATA STRUCTURES

BATCH – B [THURSDAY JANUARY 12, 2017: 2:00 PM – 5:00 PM]

ASSIGNMENTS – 1 CODE: `assign01`

NOTES:

1) Please carefully read all assignments and there is no choice.
2) Each problem in this assignment has to be answered in the same c file.
3) Create a `.c` file following the file name convention:
   If your roll number is `abc` and assignment code is: `assign01`
   Then use the following file name convention as follows: `abc-assign01.c`
   For example, if the roll number is `92` and assignment code is `assign01`, then the file name should be `092-assign01.c`
4) Strictly follow the file name convention.
5) Do not use `scanf()` or do not use unnecessary print statement. Just print only those you are asked to do in each assignment.

PROBLEMS [Total Marks: 20]:

1) **[Marks: 3]**
   Compute the sum of first 20 even numbers that are divisible by 3 in [1... 500]
   Print the sum as the output.

2) **[Marks: 3]**
   Identify all integers that are divisible by 7 but not 2 in [1, 100].
   Print all integers.

3) **[Marks: 4]**
   Identify all nonzero odd factors of any positive integer in [60, 200]
   Print all nonzero odd factors in a row with a space

4) **[Marks: 5]**
   Write a program to count the number of even digits in a given number.
   Assume a large integer as your input. Print the count as the output.

5) **[Marks: 5]**
   An arithmetic progression (AP) is given by a, (a + d), (a + 2d), (a + 3d), …
   where a = the first term, d = the common difference.
   For example, 1, 3, 5, 7, … is an arithmetic progression with a = 1 and d = 2
   Write a program to generate an arithmetic progression up to n where n=100
   Compute the sum of the terms in this arithmetic progression.

   Print the arithmetic progression and the sum, each in a separate line.
