CS112 Lab: Programming and Data Structure Labs   Date: 31st Jan 2017

Assignment-4   Deadline: 2nd Feb 2017

a) Given a range of positive integers, write a program (filename assign4a.c) to find all the perfect squares in between the range. The program does not halt until and unless a range is specified where at least one perfect square is present.

   Sample Input/Output:
   Input: Enter the range of numbers:13-15
   Output:
   No perfect square exists. Please enter another range: 10-15
   No perfect square exists. Please enter another range: 15-89
   The perfect squares in the given range are: 16, 25, 36, 49, 64, and 81

b) Write a program (filename assign4b.c) to convert two decimal integers into their corresponding binary string representations and calculate their hamming weights. If both the converted binary strings have equal length, calculate the hamming distance between them. Finally, convert these binary strings into their equivalent hexadecimal representations without using the corresponding integer representation.

   Sample Input/Output:
   Input: Enter two decimal integers: 18, 25
   Output:
   The binary representation for 18 is 10010
   The binary representation for 25 is 11001
   Hamming weight for the first string = 2
   Hamming weight for the second string = 3
   Hamming distance between the two strings = 3
   The hexadecimal representation for the first string = 12
   The hexadecimal representation for the second string = 19

Program Formatting Instruction: Students are advised to write their programs with proper care. A program must have a header block consisting of programmer's name and rollno, along with date of creation. In the header, also include the objective of the program in one line. The program should be properly indented and it is expected that you will use meaningful variable names. For each functional block provide a short and relevant comment.

Submission Process: Submit your assignment (make sure your assignment can be executed in using gcc compiler) using the link- http://172.16.1.3/~samrat/CS112/submission/

Login using your rollno (ex: 1601CS01) and password. Once you login, change the password immediately. It is your responsibility to set a strong password that is not guessable by others. Upload the assignments using the specified filenames only.

After the due date (mentioned at top), the uploading of files may be allowed for few more time but it will be treated as late submission. So ensure that you submit the assignment on time. There will be penalty if you are found to take any unfair means during the lab hours and during the assignment submission process. **Copying program from any other source and allowing others to copy your program, both will be penalized equally.**