COMPE 271
Homework 2 - Spring 2014
Due on February 18, 2014 before lecture time on Blackboard

How to submit your code

This homework asks you two write three functions with a given name and argument list. Do not change the name of the functions of the argument list. Place the three functions you have written into a text file named Homework2_redId.c where redid is your redid. Do not submit the main program or any other functions in the code. If you have any explanations make sure that they are properly commented using C notation. The homework is compiled and tested using an automated tool. If you do not follow the instructions your code may not be graded.

Submit the code you have written on blackboard. Absolutely no extensions on any homework.

Problem 1: (10 points)

Given the following C function skeleton which accepts an integer argument, complete the implementation of the function that will flip the number in Binary. For example if the number is (011101010) then the function should return (010101110). The most significant bit (MSB) is replaced with the least significant bit (LSB) in the number. The second MSB is exchanged with the second LSB etc. Please remember that an integer is 32 bits long.

```
int flipNumberinBinary(int number)
{
 int flippedBinary;




  return(flippedBinary);
}
```

Problem 2: (10 points)

Host byte order in a computer system is either little endian or big endian depending on the computer architecture. For example in Intel architecture computers the host byte order is little endian , while in Motorola computers , the host byte order is big endian. Network byte order on the other hand is always big endian. This is necessary to make sure the systems from different manufacturers are compatible on the network.
uint32_t **fromHosttoNetwork**(uint32_t hostlong)
uint32_t **fromNetworktoHost**(uint32_t netlong)
are two functions that are desired to convert from host byte order to network byte order or vice versa.

The **fromHosttoNetwork** () function converts the unsigned integer *hostlong* from host byte order to network byte order.

The **fromNetworktoHost** () function converts the unsigned integer *netlong* from network byte order to
host byte order.

Write a function fromHosttoNetwork in C that will accept an integer variable and covert it from host byte order to network byte order.
Write a function fromNetworktoHost in C that will accept an integer in network byte order and return an integer in host byte order.