C Language Programming: Homework #4
Assigned on 10/15/2019, Due on 10/29/2019

1. Write a program that can input a float or double number and print out its bit pattern and vice versa (input 32 bits for float or 64 bits for double pattern and output its value). You first need to input a number for transform case .
   (10%)1 : float number to bit pattern(float format) .
   (10%)2 : float number to bit pattern(double format) .
   (10%)3 : bit pattern (float format) to float number .
   (10%)4 : bit pattern (double format) to float number .
   Note: you should use the technique (an integer pointer to float or double) mentioned in the class:
   Note: all right you can get 50 points
2. Please check:
   1. (10%)Is it correct that the value,
      1.17549435082228750796873653722224567781866555677208752150875170627841725945472717285156050000000000000000000000000000000e-38f ,
      is the smallest floating point number as stated in the textbook. If not, what is the smallest floating point number ?
   2. (10%)What is the bit pattern of f=0.0
   3. (10%)run

```
f1 = 1.17549435082228750796873653722224567781866555677208752150875170627841725945472717285156050000000000000000000000000000000e-38f;
f2 = 1.17549435082228750e-38f;

if( f1==f2 ) { printf("%.100e = %.100e", f1, f2); }
else { printf("%.100e != %.100e", f1, f2); }
```

   Explain the result.
   4. (10%)Try to find out any number that is infinity or NaN.
   5. (10%)Guess what are these two numbers:
      i. 0 10000000 10010010000111111011011
      ii. 0 01111101 01010101010101010101011

3. updata your report to server, otherwise you will get -10 point.

4. If you will not submit your report , you get 0 point.

Command Line(You must use Parameter argc and argv)
./hw4 W N (Please Follow this Sequence，otherwise you will get -20 point)

Example
>./hw4 1 85.125
0 10000101 01010100100000000000000

>./hw4 2 85.125
0 10000000101 01010100100000000000000000000000000000000000000000000

>./hw4 3 0 10000101 01010100100000000000000
85.125

>./hw4 4 0 10000000101 01010100100000000000000000000000000000000000000000000
85.125