C Language Programming: Homework #4
Assigned on 10/23/2018(Tuesday), Due on 10/30/2018(Tuesday)

Description:

Rewrite homeworks #2 and #3 by trying to use functions as much as possible. Name your programs as **hw4_2.c** and **hw4_3.c** .

The program should achieve following conditions:

1. (10%) right file name and path

2. (20%) both of programs run correctly

3. (60%) use at least 12 functions totally, which contain at least 1 argument (do not use **void**) and 3 instructions (do not only printf() or scanf()) in each function, and should be listed in your report as following format:

homeworks #2
function_1(….): what's its usage and how to work?
function_2(….): what's its usage and how to work?
function_3(….): what's its usage and how to work?
…

You will get partial credit for incomplete descriptions.

4. (10%) Finally, report with right format should be both printed out and updated on server. Your report must presents **a Description (containing 12 functions' usage)** first, and following are **hw4_2.c (Code ~ Output) & hw4_3.c (Code ~ Output)**.

Remark

1. If you want to transfer float to integer with same 32-bit pattern or vice versa, following code can be referred.

```c
/*************************************
* File: hw3_example.c
* Descriptioin: A simple example for mode 1 which input a 32-bit
*               binary string and print with integer and float format.
* Compile: gcc -std=c99 -o hw3_example hw3_example.c //using C99 standard
* Author: Yu-Hung, Lin
* Date: 2018/10/25
*************************************/
#include<stdio.h>
#include<stdlib.h>

int main(int argc,char *argv[])
{
   int i, num = 0;
   float *f;
   /* no comment, you must know why it can work */
   f = (float *) &num;
   for(i=0; i<32; i++) {
      if(argv[1][i] == '1') {
         num |= (int)1 << 31-i;
      }
   }

   printf("integer:%d\n", num);
   printf("float:%f\n", *f);

   return 0;
}
```