

C Language Programming: Homework #2
Assigned on 10/2/2018(Tuesday), Due on 10/16/2018(Tuesday)

Description:

You are required to write a game called *master mind game*.
(<https://www.youtube.com/watch?v=XwuWTH39ac>)

You have to do the following:

1. Define input (use numbers as colors)
 - (a) number of integers (**N**) to play with. For example, $N = 5$ means you like to play with 5 numbers which is 1 to 5,
 - (b) number of positions (**P**). For example, $P = 4$ means you have 4 positions to put 4 integers,
 - (c) both **N** and **P** are input from command argument list.
2. First, you have to determine an answer to make user guess, such as (1 2 3 4). Second, write a loop to let a user input his guesses. If both the position and number are correct, the program prompts an **H** and if only the number is correct, it prompts an **X**. Counting H has higher priority than counting X. For example,
1 2 3 4
1 3 5 1 \rightarrow 1 H and 1 X
3. User input his guesses until his guesses are correct and the program terminates.
4. You will get partial credit if the following conditions are not satisfied totally.
 - (10%) The program can input command argument list correctly,

and print “*You set $N = ?$, $P = ?$.*”.

- (50%) The program can run correctly with $0 < P < 100$.
- (10%) The program can detect illegal determined answer before user guesses. For example, $N = 4$ but the answer you determined is (-1 2 4 3 5) . Print the error message “*The answer is illegal, please reset the answer.*” and allow to reset the answer to continue the game.
- (10%) The program can terminate when user guesses right.
- (20%) Format & Report (including file name, file path, compilation, report content....etc. **Note: Report should be both printed out and updated on server.**)

Command Line:

```
./hw2 n p
```

Output:

Output the prompts in form of xH yX, or error message.

Example

```
> ./hw2 5 5
> You set N = 5, P = 5.
> ans: 0 2 3 7 3
> The answer is illegal, please reset the answer.
> ans: 2 3 4 5 5
```

> guess: 1 2 3 4 5

> 1H 3X

> guess: 4 5 4 5 4

> 2H 1X

> guess: 2 3 4 5 5

> 5H 0X

(Note: You must use printf “*ans:* ” or “*guess:* ” first, then scanf your answer or user’s guesses.)