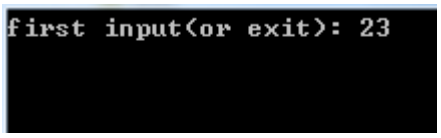
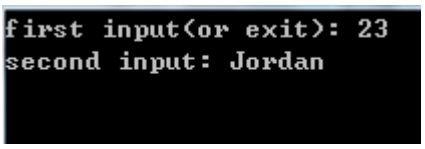
Data Structure Homework C : Hash

- Objective
  - Use an array to implement the Hash tables.
- Descriptions
  - Function details : your program should read every input and show the corresponding Hash table results in each round.
  - Hash table :
    - Part one : has 12 buckets and every bucket has one slot. The hash function is " f(key) = key mod 12 ". The input Integer is the key. When occurring a collision, it uses " f_i(key) = (f(key) + i) mod 12, where i=1,2,3,...., " to find the next empty bucket.
    - Part two : has 12 buckets and every bucket has 2 slots. The hash function is " f(key) = key mod 12 ". You need to convert each ASCII characterof the input string into a decimal number. After the transformation, the sum of each decimal number is the key (e.g., J->74, o->111, r->114,....,etc. Key=74+111+114+....,etc.). When occurring a collision and the slots are not empty, the program must find the next empty bucket by your collision processing function or method. DO NOT use the collision function in part one.
  - Input : each round has two inputs.
    - first Input format : "Integer" (forthe hash table in part one)
      - Sample input : 23



    - second Input format : "String" (forthe hash table in part two)
      - Sample input : Jordan



  - Output format : "the buckets that are using"
    - Sample output : hash table 1 :

      11 23

      hash table 2 :

      11 Jordan X (X means empty.)
- Grade policies

- 5% - Source code can be compiled without any error
- 20% - Readme file, code style, and comments in source code
- 30% - Hash table (part one) can work correctly.
- 45% - Hash table (part two) can work correctly.

- Turn in
  - System
    - Turn in files to the workstation : *csie0.cs.ccu.edu.tw*
    - Command: *turnin ds.hwC [files…]*
    - This source code will be compiled and tested on the workstation
  - Source code
    - Source code with appropriate comments
  - Report
    - A document named “readme.txt” or “readme.doc” or “readme.pdf”. you should describe the details of your project in your readme file