Study Hint Folder

1. Study given codes in “Task01” and complete it

Run the program and play with it for a while. Once you understand how the program is working, start with the next paragraph.

Once sorting example for number (mark) and another for string (ID) was done for you. Learn from that and write codes for sorting by section and name in respective methods.

1. For Task1, Generate javadoc like shown in the doc folder inside the Hint folder.

**Help:**

http://www.drjava.org/docs/user/ch10.html

http://www.oracle.com/technetwork/java/javase/documentation/index-137868.html#format

1. Complete the given Task03.java file using Scanner

Use the last constructor from https://docs.oracle.com/javase/8/docs/api/java/util/Scanner.html

1. Complete the given Task03.java file using StringTokenizer.

**Hint:**

http://www.kodejava.org/examples/15.html

https://docs.oracle.com/javase/8/docs/api/index.html?java/util/StringTokenizer.html

http://www.java-samples.com/showtutorial.php?tutorialid=236

1. Complete Task03 using String.split()

**Hint:**

http://www.rgagnon.com/javadetails/java-0438.html

http://www.devdaily.com/java/edu/pj/pj010006

**Task 6) Happy Number**

**Source:** http://online-judge.uva.es/p/v105/10591.html

Let the sum of the square of the digits of a positive integer **S0** be represented by **S1**. In a similar way, let the sum of the squares of the digits of **S1** be represented by **S2** and so on. If **Si** = 1 for some **i**  1, then the original integer **S0** is said to be Happy number. A number, which is not happy, is called Unhappy number. For example 7 is a Happy number since 7 -> 49 -> 97 -> 130 -> 10 -> 1 and 4 is an Unhappy number since 4 -> 16 -> 37 -> 58 -> 89 -> 145 -> 42 -> 20 -> 4.

**Input**

The input consists of several test cases, the number of which you are given in the first line of the input. Each test case consists of one line containing a single positive integer **N** smaller than **109**.

**Output**

For each test case, you must print one of the following messages:

Case #p: N is a Happy number.

Case #p: N is an Unhappy number.

Here **p** stands for the case number (starting from 1). You should print the first message if the number **N** is a happy number. Otherwise, print the second line.

|  |  |
| --- | --- |
| **Sample Input** | **Output for Sample Input** |
| 3  7  4  13 | Case #1: 7 is a Happy number.  Case #2: 4 is an Unhappy number.  Case #3: 13 is a Happy number. |

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**More Information:**

* http://en.wikipedia.org/wiki/Happy\_number
* http://mathworld.wolfram.com/HappyNumber.html

## Command Line

**Task 7**

Learn the usage of following commands. [Take help from <http://www.computerhope.com/msdos.htm> or google]

|  |  |  |
| --- | --- | --- |
| **Command** | **Summary** | **Highlights** |
| cmd | New command line / console in Windows Vista/7 | * Command prompt using both   1. Dr. Java (in interaction pane)   2. Console (cmd) * 8.3 File naming system * Handing paths with spaces using double quotes * Write a java program that take 3 numbers from the user and prints their sum. Run your program using both   1. Dr. Java   2. Console |
| command | Old / Traditional command line / console in Windows XP and older systems. |
| cd | Change Directory / Folder. Another similar command is **chdir**. |
| c**:** | To go to C drive. Similarly, typing **d:** and pressing enter (**** ) will take you to D drive. |
| md | Make/Create a Directory / Folder. Another similar command is **mkdir**. |
| set | To view / change value of **environment variables** (?) |
| dir | Show list of files and folders |
| javac | To compile a java program and create class file |
| java | To run a java program (class file) |

**Task 8**

Complete the following program. You must use loop and **arrayName.length** for all current and future tasks in all labs. For example, following array name is “a”, so you should write a.length instead of 3 to stop the loop.

|  |  |
| --- | --- |
| **Program** | **Expected Output** |
| class Lab10Task02{  public static void main(String[] args){  int a[]={10, 20, 30};  // write your code here  }  } | 10  20  30 |

**Task 9**

Modify your solution of Task 2 and complete the following program.

|  |  |
| --- | --- |
| **Program** | **Expected Output** |
| class Lab10Task03{  public static void main(String[] args){  String a[]={"40", "50", "60"};  // write your code here  }  } | 40  50  60 |