**Easy:**

**Problem 1: Write a java program that will ask user to input a string (containing exactly one word). Then your job is to sort reverse alphabetically all the letters in it. For simplicity, you can consider all letters will be either capital or small.**

**Example:** Suppose, user inputs “BANGLADESH”. Then you will sort all the letters in it alphabetically. So output will be “SNLHGEDBAA”.

**Input:**

BANGLA

**Output:**

NLGBAA

**Input:**

BOOK

**Output:**

OOKB

**Medium:**

**Problem 4 (Remove duplicates)**

Given a string, create a new string with all the consecutive duplicates removed. For example, ABBCCCCCBBAB becomes ABCBAB.

**Sample Input:**

AAABBBBCDDBBECE

**Sample Output:**

ABCDBECE

**Hard:**

**Problem 1: 3-Divisibility**

Write a program that prints whether a given number is divisible by 3. The number can be huge (may contain up-to 1000 digits).

(**Hint**: A number is divisible by 3 if the **sum of its digits** is divisible by 3.)

**Input:**

141414141414141414

**Output:**

141414141414141414 is divisible by 3.

**Input:**

2368049403457746389253849640734644954763

**Output:**

2368049403457746389253849640734644954763 is divisible by 3.

**Input:**

557629788989463427894562342368049403457746389253849640734644954763

**Output:**

557629788989463427894562342368049403457746389253849640734644954763 is divisible by 3.

**Input:**

4534295845646646898446545584464587649964469446664789984665548796589456462789456234236804940345774638

**Output:**

4534295845646646898446545584464587649964469446664789984665548796589456462789456234236804940345774638 is not divisible by 3.