Selection sort is a simple sorting algorithm which sorts a set of items by adding the smallest item in unsorted set of items into the set of sorted items, where all sorted items are less than or equal to unsorted items. Write a program to sort items by selection sort.

Input

The input has several cases and ends with EOF. Each case contains a set of hexadecimal digits with a maximum size of 20.

Output

For each case, sort the input by selection sort. The output should be in **ascending order**. **Each lower case letter is less than its upper case letter.** Output the partial result in each pass according to the format given in sample output. Each two consecutive cases should be separated by a line.

Sample Input

F f E e D d C c B b A a 9 8 7 6 5 4 3 2

Sample Output

Pass 0: / F f E e D d C c B b A a 9 8 7 6 5 4 3 2
Pass 1: 2 / f E e D d C c B b A a 9 8 7 6 5 4 3 F
Pass 2: 2 3 / E e D d C c B b A a 9 8 7 6 5 4 f F
Pass 3: 2 3 4 / e D d C c B b A a 9 8 7 6 5 E f F
Pass 4: 2 3 4 5 / D d C c B b A a 9 8 7 6 e E f F
Pass 5: 2 3 4 5 6 / d C c B b A a 9 8 7 D e E f F
Pass 6: 2 3 4 5 6 7 / C c B b A a 9 8 d D e E f F
Pass 7: 2 3 4 5 6 7 8 / c B b A a 9 C d D e E f F
Pass 8: 2 3 4 5 6 7 8 9 / B b A a c C d D e E f F
Pass 9: 2 3 4 5 6 7 8 9 a / b A B c C d D e E f F
Pass 10: 2 3 4 5 6 7 8 9 a A / b B c C d D e E f F
Pass 11: 2 3 4 5 6 7 8 9 a A b / B c C d D e E f F
Pass 12: 2 3 4 5 6 7 8 9 a A b B / c C d D e E f F
Pass 13: 2 3 4 5 6 7 8 9 a A b B c / C d D e E f F
Pass 14: 2 3 4 5 6 7 8 9 a A b B c C / d D e E f F
Pass 15: 2 3 4 5 6 7 8 9 a A b B c C d / D e E f F
Pass 16: 2 3 4 5 6 7 8 9 a A b B c C d D / e E f F
Pass 17: 2 3 4 5 6 7 8 9 a A b B c C d D e / E f F
Pass 18: 2 3 4 5 6 7 8 9 a A b B c C d D e E / f F
Pass 19: 2 3 4 5 6 7 8 9 a A b B c C d D e E f / F