1 Palindrome 1

Description

A palindrome is a string that reads the same in either direction. For instance, 'dog', 'apple', and 'computer' are not palindromes, but 'madam', 'aka', and 'noon' are.

Your job is to check whether a given string is a palindrome.

Input Format

You are given a string that only consists of lower-case letters, whose length is between 1 and 100.

Output Format

Output "Palindrome" if the given string is a palindrome. Otherwise, output "Not Palindrome".

Sample Input 1

```
dog
```

Sample Output 1

```
Not Palindrome
```

Sample Input 2

```
noon
```

Sample Output 2

```
Palindrome
```

2   Lottery Game 1

Description

Consider the following simple lottery game: You are to choose m numbers between 1 and n (where $1 \leq m \leq n$). At the end of the day, the seller will also choose m numbers like you did, and if you get k or more numbers correct, you win. What is the probability of winning?

Input Format

You are given three integers: n, m, and k. It is always the case that $1 \leq k \leq m \leq n \leq 10$.

Output Format

Output your winning chance, rounded up to the 6th decimal point. **Note** Use type double (instead of float), and use %.6lf in your printf to print up to the 6th decimal point (it rounds up automatically).

Sample Input 1

3 2 1

Sample Output 1

1.000000

Sample Input 2

3 1 1

Sample Output 2

0.333333

Sample Input 3

8 2 1

Sample Output 3

0.464286

3   Selection Sort

Description

http://www.algolist.net/Algorithms/Sorting/Selection_sort

Read the tutorial and write YOUR OWN C++ CODE that sorts the given numbers.

In short, selection sort works as follows (for n numbers):

(Step 0) You scan through the list from index 0 to $n - 1$, find the smallest number. Swap that smallest number with the number at index 0 (hence, moving it to the front of the list).

(Step 1) You scan through the list from index 1 to $n - 1$, find the smallest number. Swap that smallest number with the number at index 1 (hence, moving it to the front of the list).

(Step 2) You scan through the list from index 2 to $n - 1$, find the smallest number. Swap that smallest number with the number at index 2 (hence, moving it to the front of the list). And so on.

Input Format

You are given n, which is the number of integers that will be given. Assume $1 \leq n \leq 100$. Next, you will be given n integers, ranged between -100 and 100. They are not necessarily distinct.

Output Format

Output the sorted list of n numbers.

Sample Input 1

```
3
2 1 3
```

Sample Output 1

```
1 2 3
```

Sample Input 2

```
7
10 20 30 40 -2 -4 -5
```

Sample Output 2

```
-5 -4 -2 10 20 30 40
```