A. Jellyfish Art

time limit per test

1 second

memory limit per test

256 megabytes

input

standard input

output

standard output

The renowned jellyfish artist, Jellyfishy McTentacly, specializes in creating mesmerizing jellyfish patterns! Jellyfishy's latest masterpiece is a jellyfish-shaped text pattern. The jellyfish consists of a body and tentacles, represented by characters 'J' and 'S' respectively. Your task is to recreate Jellyfishy McTentacly's artwork.

You are given a single integer, N(1≤N≤100)�(1≤�≤100), which represents the number of tentacles on Jellyfishy's creation.

Specifically, the jellyfish body is a 2N−12�−1 wide, N� tall box of 'J' characters. Each of the N� tentacles is below the body, consisting of a 11-wide, N� tall sequence of 'S' characters. Each tentacle is spaced from its adjacent tentacles by a single space (see examples for clarification).

Jellyfishy McTentacly's art is truly one-of-a-kind, and you have the privilege of replicating it. Can you create a program that takes an integer N� as input and outputs the jellyfish-shaped text pattern that captures the essence of this artistic masterpiece?

**Input**

A single integer, N(1≤N≤100)�(1≤�≤100), representing the number of tentacles.

**Output**

2N2� lines, where the first N� consist of the body, and the second N� lines are the tentacles.

**Examples**

**input**

**Copy**

3

**output**

**Copy**

JJJJJ

JJJJJ

JJJJJ

S S S

S S S

S S S

**input**

**Copy**

6

**output**

**Copy**

JJJJJJJJJJJ

JJJJJJJJJJJ

JJJJJJJJJJJ

JJJJJJJJJJJ

JJJJJJJJJJJ

JJJJJJJJJJJ

S S S S S S

S S S S S S

S S S S S S

S S S S S S

S S S S S S

S S S S S S