Design and program a solution to the problem described below. Your architecture should follow the design pattern we used in Assignment 01: a Main class with your main() method and another class as described below. The main should implement and test the cases described below. When the program executes it should clearly indicate if the test cases passed or failed.

Be sure to name your project and your zip file *Assignment02\_xxxxxxxx* where xxxxxxxx is your UC 6+2. The package should be assignment02\_xxxxxxxx .

Problem Statement

You are given two s: N and K. Lun the dog is interested in strings that satisfy the following conditions:

* The string has exactly N characters, each of which is either 'A' or 'B'.
* The string *s* has exactly K pairs (*i*, *j*) (0 <= *i* < *j* <= N-1) such that *s*[*i*] = 'A' and *s*[*j*] = 'B'.

If there exists a string that satisfies the conditions, find and return any such string. Otherwise, return an empty string.

Definition

Class: AB

Method: createString

Parameters: int, int

Returns: String

Method signature: String createString(int N, int K) (be sure your method is public)

Limits

Time limit (s): 2.000

Memory limit (MB): 256

Constraints (assume your paramaters conform to these limits. You do not need to enforce them)

- N will be between 2 and 50, inclusive.

- K will be between 0 and N(N-1)/2, inclusive.

Examples

0)

3

2

Returns: "ABB"

This string has exactly two pairs (*i*, *j*) mentioned in the statement: (0, 1) and (0, 2).

1)

2

0

Returns: "BA"

Please note that there are valid test cases with K = 0.

2)

5

8

Returns: ""

Five characters is too short for this value of K.

3)

10

12

Returns: "BAABBABAAB"

Please note that this is an *example* of a solution; other valid solutions will also be accepted.

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