# Teleport

Little Aron has to visit the planets of one system. Imagine that the planets are ordered in line and labeled with the numbers **1, ..., n**.

Aron has **n-1** teleports labeled with **1, 2, ..., n-1**. The teleport labeled with **t** could transmit only once, one human from a planet labeled with **m** to the planets with label **m+t** or **m-t**, if such planet exists. Using a space-stop Aron could go to the planet labeled with **k**, i.e. he starts his journey from a planet with a label **k**. For the given **n** and **k** you have to find the best way Aron can use the teleports in order to visit as many different planets of the system, as possible.

## Input

First line containts two integers, **n** and **k** (1 <= k <= n <= 1 000 000).

## Output

Output should contain indices **t**, of the teleports that Aron used, in the order in which he used them. Moreover you have to output **t** if he used the teleport to jump from a planet with the smaller number to a planet with a higher, and **-t** if he jumped from a planet with a higher number to a planet with a smaller number.

If there are several solutions with the same number of teleports, you can output any one of them.

## Example

**Input**:

6 2

**Output:**

4 -5 3 -1 2

NOTE - A simpler version of this task appeared on ITI 2012, Shumen.