

Junior Division**ACSL COIN STRIP**

PROBLEM: The following game comes from the book “On Numbers and Games” by John Conway. Given the rules of the game Coin Strip, play a next move. The rules are as follows:

1. The board consists of a series of adjacent squares. The number of squares is variable.
2. At the start of the game, coins (markers) are placed on the board by one of the two players.
3. Coins can't share the same square.
4. Coins can't pass another coin.
5. Coins can only move to the left.
6. Coins may move any number of squares using the rules above.
7. The winner is the last player who moves a coin.

A sample initial game board set up is shown below:



INPUT: There will be 5 input lines. Each line will include the number of squares on the board, the number of coins on the board and the location numbers where coins are placed. In the example above there are 12 squares and 7 coins. The coins are at locations 1, 4, 6, 8, 9, 10 and 12.

OUTPUT: For each input line, print the number of coins that can be moved as a starting move 1, 2, 3, 4 or 5 squares. For the board above the coin in location 4 could be moved 1 or 2 squares. The coin in location 6 can only be moved 1 square. The coin in location 8 can only be moved 1 square. The coin in location 12 can only be moved 1 square. The output would be 4,1,0,0,0. That is 4 coins could be moved 1 square to the left, 1 coin could be moved 2 squares to the left but no coins could be moved 3, 4 or 5 squares to the left.

SAMPLE INPUT

1. 12, 7, 1, 4, 6, 8, 9, 10, 12
2. 14, 6, 1, 3, 6, 7, 10, 14
3. 10, 2, 4, 9
4. 10, 2, 6, 10

SAMPLE OUTPUT

1. 4,1,0,0,0
2. 4,3,1,0,0
3. 2,2,2,1,0
4. 2,2,2,1,1