Утегенов Батырхан Елембетұлы [ADS-Lab-01]: Submit a solution

Submit a solution for A-111521. Royal Flush

Time limit: 1 s

Real time limit: 5 s

Memory limit: 256M

Problem A: 111521. Royal Flush

You are in a casino, the croupier offers you to play. You started playing and there is given a sorted deck of cards numbered 1 to N. He shows you a trick:

- We pick up 1 card and put it on the back of the deck.
- Now, we pick up another card, it turns out to be card numbered 1, we put it outside the deck.
- Now we pick up 2 cards and put it on the back of the deck one by one.
- Now, we pick up another card and it turns out to be card numbered 2, we put it outside of the deck.
- ...
- We perform this steps till the last card.

Note, that at some step i the number of cards in the deck can be less than i, in this case some cards can processed several times, see notes. You are questioned if you can repeat that trick. Output initial arrangement of the deck if possible, or say if it is impossible.

Input format

The first line of the input contains the number of test cases T ($1 \leq T \leq 100$), each of next T lines contain single integer N ($1 \leq N \leq 1000$) - the size of the deck for this test.

Output format

For each test case, in separate line output n space separated integers - the order of the deck from top card to bottom if such arrangement of decks is

For each test case, in separate line output n space separated integers - the order of the deck from top card to bottom if such arrangement of decks is possible, or -1 otherwise.

Examples

Input

```
2
4
5
```

Output

```
2 1 4 3
3 1 4 5 2
```

Input

```
3
5
6
6
```

Output

```
3 1 4 5 2
4 1 6 3 2 5
4 1 6 3 2 5
```

Notes

In the first test case of the first example the deck is processed as follows:

- initially deck is $[2143]$,
- put one card at the back: $[1432]$,
- take out 1: $[432]$,
- put two cards at the back, one by one: $[243]$,
- take out 2: $[43]$,
- put three card at the back one by one: $[43] \to [34] \to [43] \to [34]$,
- take out 3: $[4]$,
- pretend to do smth then take out 4: $[]$.

Submit a solution

Language: g++ - GNU C++ 11.4.0

File Выберите файл Файл не выбран

Send! Send!

Previous submissions of this problem

Run ID	Time	Size	Problem	Language	Result	Failed test	View source	View report
2871	259:36:32	367	A	g++	OK	N/A	View	View

A B C D E F G H I J