ADAlab Online Judge

🏠 Home　　⦂⦂⦂ Problems　　🏆 Contests　　〜 Status　　📊 Rank101109107 ▼

ℹ About ∨

Consider a game where there are n children (numbered $1, 2, \cdots, n$) in a circle. During the game, every second child is removed from the circle, until there are no children left. Counting begins at child 1 in the circle and proceeds around the circle in clockwise direction (where the number of the children is increasing except child n and child 1). In which order will the children be removed?

Input

The only input line has an integer n.

Constraints

- $1 \leq n \leq 2 \cdot 10^5$

Output

Print n integers: the removal order.

Sample Input 1 📋

```
7
```

Sample Output 1

```
2 4 6 1 5 3 7
```

Hint

Details in testcases:

For test case ID $1, 2, \cdots, 10$ (40% of total score):

- $1 \leq n \leq 10$

For test case ID 11 (10% of total score):

- $1 \leq n \leq 200$

For test case ID $12, 13$ (50% of total score):

- $1 \leq n \leq 2 \cdot 10^5$
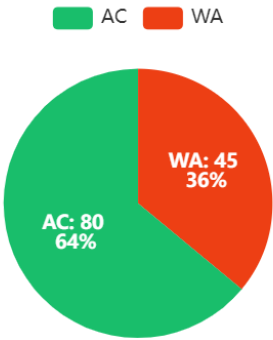

Submissions

Rankings

🏠 View Contest

ℹ Information

ID	3
Time Limit	1000MS
Memory Limit	256MB
IO Mode	Standard IO
Created By	ta_redleaf
Level	Hidden
Score	100
Tags	Show

⊙ Statistic　　Details

🟩 AC　🟥 WA

WA: 45 36%
AC: 80 64%

Language:　C ▼　　↻　　　Theme:　Solarized Light ▼

☁

```
1
```

ADAlab Online Judge

🏠 Home   ⠿ Problems   🏆 Contests   ⩘ Status   ⊪ Ranb101109107 ▾

ℹ About ⌄

✅ You have solved the problem

⚠ Contest has ended

🐛 Submit for Sample Test   ✏ Submit

Sample Test Input

```
7
```

Sample Test Output

ADAlab Online Judge
Powered by OnlineJudge   Version: 20220706-3ff68