Right Triangle

When Ant studied in middle school, he liked math very much and did well in it. One day, his teacher taught him the pythagoras theorem (which was also called Pythagorean theorem). Pythagorean number is a group of three integers a,b,c($a^2 + b^2 = c^2$) which can constitue the edges of a right triangle. Ant was interested in pythagorean number. He thought every integer n($n > 2$) could be the smallest integer of pythagorean number. He also found that, if the integer was n ($n>2$) a prime, there would be only one group of pythagorean number whose smallest integer was n. Now here comes the question. Given you a prime n, caculate the pythagorean number whose smallest one is n.

Input

There are several test cases. For each test case, there is a single line contains a prime n ($n > 2$ and n<40000)

Output

For each test case, output all the three integers of the pythagorean number seperated by single spaces which is sorted in ascending order and n is the smallest of the three integers.

Example

Input:
3
5

Output:
3 4 5
5 12 13