Secondary Factorial

Factorial of an integer n,  denoted as n! is defined as the product of the first n natural numbers

n! = 1\*2\*3....\*n

1! = 1 and 0! = 1

We define a secondary factorial of a number n, denoted by SF(n), as follows:

SF(n) = 1\*3\*5\*....\*n, if n is odd and

SF(n) = 2\*4\*6\*....\*n if n is even

If n is an odd number, SF(n) is defined as the product of all the odd numbers, starting from 1, till the number n. SF(5)= 1\*3\*5= 15.

If n is an even number, SF(n) is defined as the product of all the even numbers, starting from 2, till the number n. SF(6)=2\*4\*6=48.

Given a number k, write a code to compute SF(n), where k = n!.  For the given number k, If there is no number n such that  n! = k then, your code should print -1.

**Illstration**

Given k = 24 then 24 = 4! and

SF(4) = 2\* 4 = 8.

Given k=25, there is no number n such that 25 = n!, then the out put should be -1.

Given k=6, 6=3!. SF(3)=1\*3=3

**Input Format**

First line contains an integer, k

**Ouput Format**

Print SF(n) if there exists a number  n, such that k = n! and -1 otherwise

import sys

k=int(input())

x=0

sf=1

while k!=1:

x=x+1

if k>1:

k=k/x

else:

print("-1")

sys.exit()

if x%2==0:

y=2

else :

y=1

for i in range(y,x+1,2):

sf=sf\*i

print(sf)