import math

a=list(map(int,input("Enter the number: ").split(",")))

def perfectsquare(x):

s=int(math.sqrt(x))

return s\*s==x

def fibonacci(b):

return perfectsquare(5\*b\*b+4) or perfectsquare(5\*b\*b-4)

for i in a:

if fibonacci(i)==True:

print(i,"is valid")

else:

print(i,"is invalid")