# AIM: TO IMPLEMENT DIFFIE HELLMAN KEY EXCHANGE ALGORITHM

import math

import random

def generate\_random\_prime():

prime = [x for x in range(2, 1000) if all(x % y != 0 for y in range(2, int(math.floor(math.sqrt(x))) + 1))]

return random.choice(prime)

def diffie\_hellman(x, y, n, g):

A = g \*\* x % n

B = g \*\* y % n

key1 = B \*\* x % n

key2 = A \*\* y % n

print('Key1: {}'.format(key1))

print('Key2: {}'.format(key2))

def main():

n = generate\_random\_prime()

g = generate\_random\_prime()

x = int(input('Enter x: '))

y = int(input('Enter y: '))

diffie\_hellman(x, y, n, g)

if \_\_name\_\_ == '\_\_main\_\_':

main()

'''

OUTPUT:

Enter x: 6

Enter y: 15

Key1: 736

Key2: 736

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