def prime\_factors(n):

factors = {}

while n % 2 == 0:

if 2 in factors:

factors[2] += 1

else:

factors[2] = 1

n //= 2

for i in range(3, int(n\*\*0.5) + 1, 2):

while n % i == 0:

if i in factors:

factors[i] += 1

else:

factors[i] = 1

n //= i

if n > 2:

if n in factors:

factors[n] += 1

else:

factors[n] = 1

return factors

def print\_prime\_factors(n):

n = int(n)

print(f"The prime factors of {n} are:")

factors = prime\_factors(n)

for factor, exponent in factors.items():

print(factor,"|",exponent)

print\_prime\_factors(input())

**OUTPUTS**

The prime factors of 20 are:  
2 | 2  
5 | 1

The prime factors of 27 are:  
3 | 3

The prime factors of 15 are:  
3 | 1  
5 | 1

