

Partition to  $k$  equal subset sum  
 $n = [4, 3, 2, 3, 5, 2, 1]$ ,  $k = 4$  Output = True  
explanation  
 $\{5\}, \{4, 1\}, \{2, 3\}, \{2, 3\} = 4$

The approach is simple, get the sum of all values in list  
 $\sum(n) = 20$

Create another list to store possible answers  
possible  $k = [ ]$

divide total sum by an increasing number, either up to  $k$  check  
or until the result of such division is less than max value in  $n$ .  
in this we check the mod, if it's 0, we append it

$$20 \% 1 = 0 \quad 20 / 1 = 20 \quad p\_k = [1, 2, 4]$$

$$20 \% 2 = 0 \quad 20 / 2 = 10$$

$$20 \% 3 = 2$$

$$20 \% 4 = 0 \quad 20 / 4 = 5$$

$$20 \% 5 = 0 \quad 20 / 5 = 4 \text{ STOP!!}$$

then check if  $k$  is in possible list

4 in  $p\_k$ ? Yes

return True

5 in  $p\_k$ ? No

return False