

Untitled2

February 27, 2022

```
[1]: def sk(n):  
    sum = 0  
    for i in range(1,n+1): # since range gives half open interval  
        sum = sum + (1/i)  
    return sum
```

```
[2]: def parta():  
    k = 1000  
    while sk(k) >= 4:  
        k -= 1  
    ans = k + 1 # smallest k is the last one to satisfy the condition so we add  
    ↪ 1.  
    print(ans)
```

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[5]: parta()
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31

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[3]: def partb():  
    k = 10000  
    while sk(k) >= 8:  
        k -= 1  
    ans = k + 1 # smallest k is the last one to satisfy the condition so we add  
    ↪ 1.  
    print(ans)
```

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[6]: partb()
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1674

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[4]: def partc():  
    k = 100000  
    while sk(k) >= 12:  
        k -= 1  
    ans = k + 1 # smallest k is the last one to satisfy the condition so we add  
    ↪ 1.  
    print(ans)
```

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[7]: partc()
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91380

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[15]: def partd():  
      k = 5000000  
      while sk(k) >= 16:  
          k -= 1  
      ans = k + 1 # smallest k is the last one to satisfy the condition so we add  
      ↪1.  
      print(ans)
```

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[16]: partd()
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4989191

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[ ]:
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