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import math

# 1A. Write a converter that translates from lightyears to parsec.

lykm = 9.4607304725808E12 # km
pskm = 3.085677581E13 # km
ly = 1400
ps = ly*lykm / pskm
print("The amount of parsecs in : %a parsecs." % ps)

# 1B. The Starship Enterprise D travels at warp 9 (which is 1516.38 x light
#      speed), how long would their journey to Kepler 452b be (in days)?

warp9 = (ly/1516.38)
days = (warp9*365.25)
print("It would take: %a days at warp 9 speed." % days)

# 1C. How long would it take for a non-fictional spacecraft like Voyager 1
#      flies at a speed of 17.043 km/s (kilometers per second) to get there
#      (express this in years)?

voyager1 = 17.043 # km/s
time = ly*lykm/voyager1
sec = (60*60*24*365)
years = time/sec
print("It would take Voyager 1: %a years to get to Kepler 452b." % years)

# 2. Write a function that returns the Bell number and then show it
#      for values from 1 to 10.

import math

def factorial(n):
    fact = fact * 1
    return fact

def binomial(n,k):
    bi = (factorial(n) / (factorial(k)*factorial(n-k)))
    return bi

def main():
    for n in range(5):
        for k in range(0,n+1):
            print(n, k, binomial(n,k))

if __name__ == '__main__':
    main()
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Saved successfully!





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The amount of parsecs in : 429.2419513681239 parsecs.  
It would take: 337.21758398290666 days at warp 9 speed.  
It would take Voyager 1: 24643367.56556945 years to get to Kepler 452b.  
0 0 1.0  
1 0 1.0  
1 1 1.0  
2 0 1.0  
2 1 2.0  
2 2 1.0  
3 0 1.0  
3 1 3.0  
3 2 3.0  
3 3 1.0  
4 0 1.0  
4 1 4.0  
4 2 6.0  
4 3 4.0  
4 4 1.0
```

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