MacBook problem of probability

```
1 import numpy as np
2 import pandas as pd
```

```
1 import seaborn as sb
2 from scipy.stats import binom
```

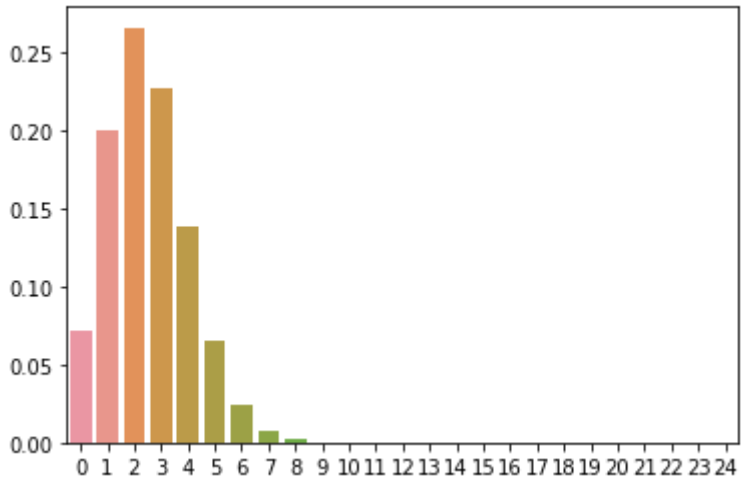
```
1 binom(25,0.1)
```

```
<scipy.stats._distn_infrastructure.rv_frozen at 0x7fe515442450>
```

```
1 binom(25,0.1).pmf(x)
```

```
array([7.17897988e-02, 1.99416108e-01, 2.65888144e-01, 2.26497308e-01,
       1.38415021e-01, 6.45936766e-02, 2.39235839e-02, 7.21504912e-03,
       1.80376228e-03, 3.78567392e-04, 6.73008697e-05, 1.01971015e-05,
       1.32184649e-06, 1.46871832e-07, 1.39877935e-08, 1.13974614e-09,
       7.91490374e-11, 4.65582573e-12, 2.29917320e-13, 9.41182011e-15,
       3.13727337e-16, 8.29966500e-18, 1.67670000e-19, 2.43000000e-21,
       2.25000000e-23])
```

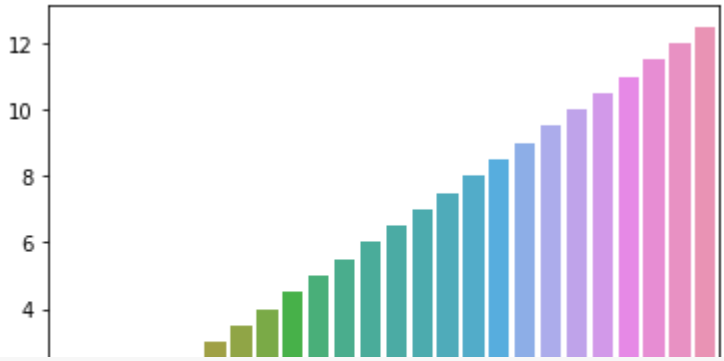
```
1 ax=sb.barplot(x=np.arange(0,25),y=binom(25,0.1).pmf(x))
```



10% of 25 , 2.5 , , after 2.5 decreases

for sample bar plot

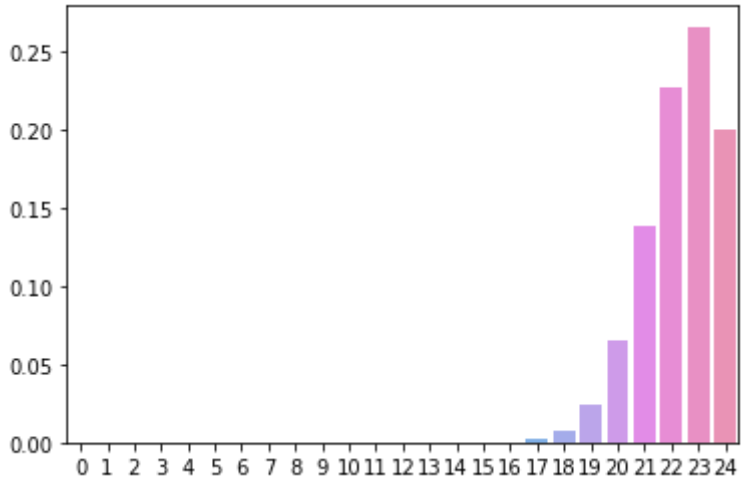
```
1 ax=sb.barplot(x=x,y=0.5*x)
```



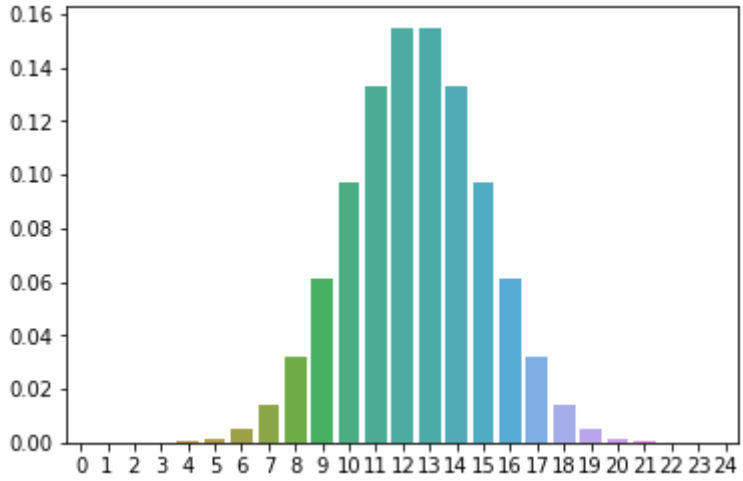

```
#PROB OF EXACTLY 3 HAVING MACBOOK
#

```

```
ax=sb.barplot(x=np.arange(0,25),y=binom(25,0.9).pmf(x))
```



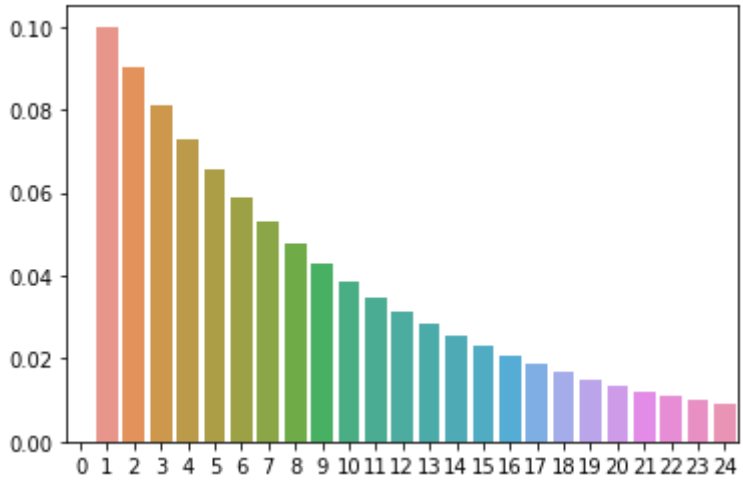

```
ax=sb.barplot(x=np.arange(0,25),y=binom(25,0.5).pmf(x))
```



infection problem

```
  from scipy.stats import geom
  ax=sb.barplot(x=np.arange(0,25),y=geom(0.1).pmf(x))
```

```
/usr/local/lib/python3.7/dist-packages/seaborn/_decorators.py:43: FutureWarning: Pass
  FutureWarning
```



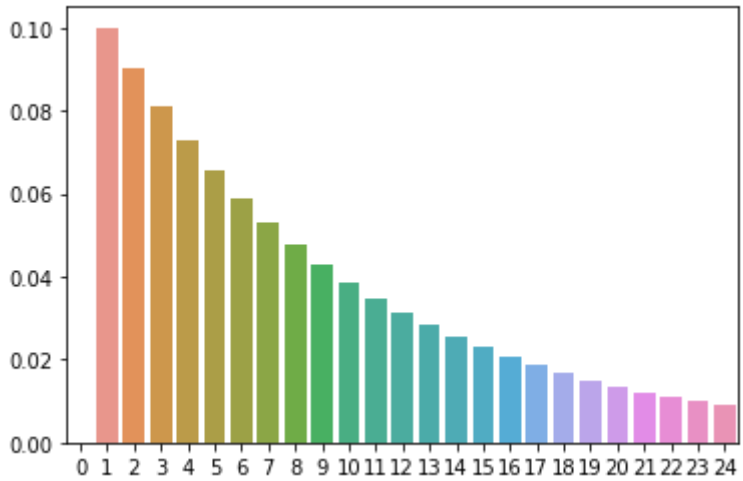

```
geom(0.1).pmf(np.arange(0,25))
```

```
array([0.        , 0.1       , 0.09      , 0.081     , 0.0729    ,
       0.06561   , 0.059049  , 0.0531441 , 0.04782969, 0.04304672,
       0.03874205, 0.03486784, 0.03138106, 0.02824295, 0.02541866,
       0.02287679, 0.02058911, 0.0185302 , 0.01667718, 0.01500946,
       0.01350852, 0.01215767, 0.0109419 , 0.00984771, 0.00886294])
```

Above code alternate form

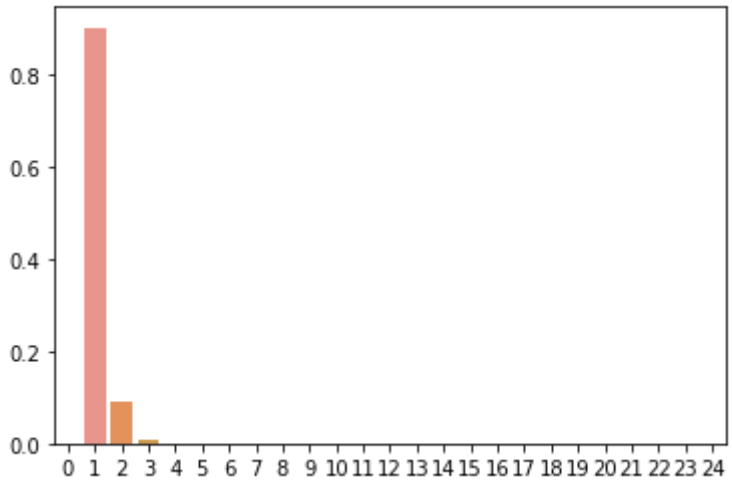
```
from scipy.stats import geom
ax=sb.barplot(np.arange(0,25),geom(0.1).pmf(np.arange(0,25)))
```

```
/usr/local/lib/python3.7/dist-packages/seaborn/_decorators.py:43: FutureWarning: Pass
  FutureWarning
```

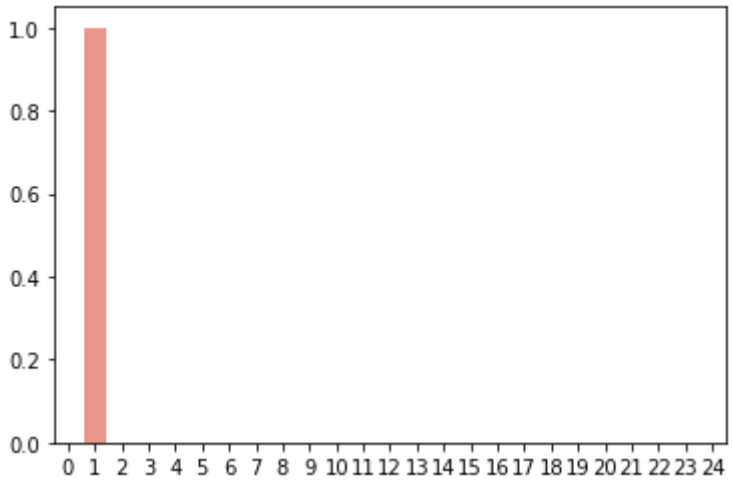



```
ax=sb.barplot(x=np.arange(0,25),y=geom(0.5).pmf(x))
```


```
1 ax=sb.barplot(x=np.arange(0,25),y=geom(0.9).pmf(x))
```

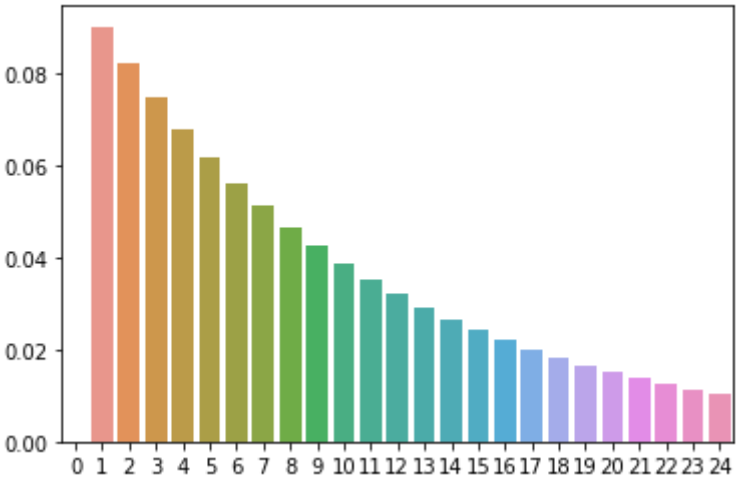



```
1 ax=sb.barplot(x=np.arange(0,25),y=geom(1).pmf(x))
```



doctor voulenter

```
1   ax=sb.barplot(x=np.arange(0,25),y=geom(0.09).pmf(x))
```



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