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In [1]:

```
import numpy as np
import matplotlib.pyplot as plt
for yo in range(0,4):
    c=[1.2,2,5,10]
    j=100000
    u=np.random.rand(1,j)
    a=np.random.rand(1,j)
    fval=[0.11,0.12,0.09,0.08,0.12,0.10,0.09,0.09,0.10,0.10]
    c1=[1,2,3,4,5,6,7,8,9,10]
    q=[0.0,0.1,0.2,0.3,0.4,0.5,0.6,0.7,0.8,0.9,1]
    X=[]
    for i in range(0,j):
        for v in range(0,11):
            if((q[v]<u[0][i]).all()& (u[0][i]<=q[v+1]).all()):
                X.append(c1[v]-1)
                break
    y=[]

    for i in range(0,j):
        if (a[0][i]<=(fval[X[i]]/(c[yo]*0.1))).all():
            y.append(X[i])

    no_of_iterations=len(y)
    print(no_of_iterations)
    fr=np.linspace(0,10,11)
    prob,bins=np.histogram(y,fr)
    prob=prob/len(y)
    print(prob)
```

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83257
[0.11098166 0.11820027 0.09044285 0.07975305 0.11907707 0.0996673
 0.08945794 0.09086323 0.10059214 0.10096448]
50086
[0.11050992 0.12013337 0.0904045  0.08132013 0.11570099 0.10254362
 0.09010502 0.08978557 0.09936909 0.10012778]
19837
[0.11065181 0.11639865 0.09225185 0.07833846 0.12022987 0.09749458
 0.09210062 0.09290719 0.09890608 0.10072088]
10226
[0.11333855 0.12008606 0.08889106 0.08380598 0.12419323 0.09778995
 0.08703305 0.0894778  0.09759437 0.09778995]
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In [ ]: