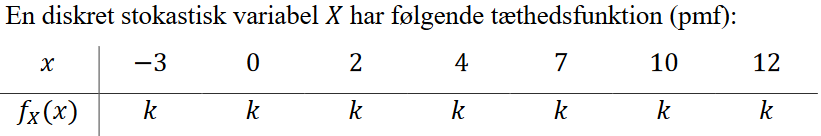
# Opgave 1



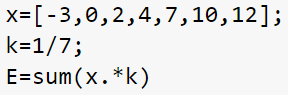
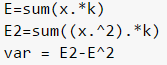
## For hvilken værdi af k er fx(x) en gyldig tæthedsfunktion? Begrund svaret.

Da f(x) = k for alle givne værdier er k = 1 / n

Den eneste gyldige værdi er 1/7

## 

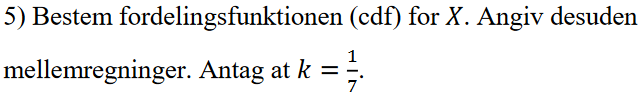
## 

Forventningsværdi = 4.5714

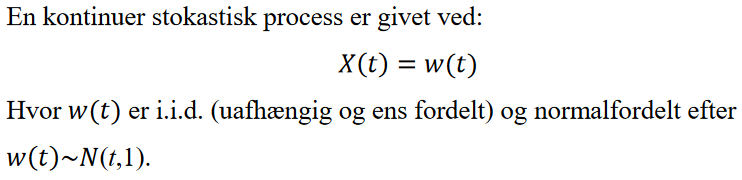
Varians = 25.1020

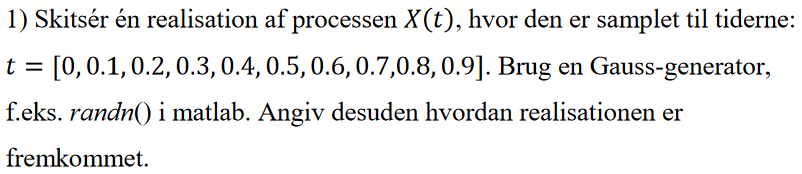


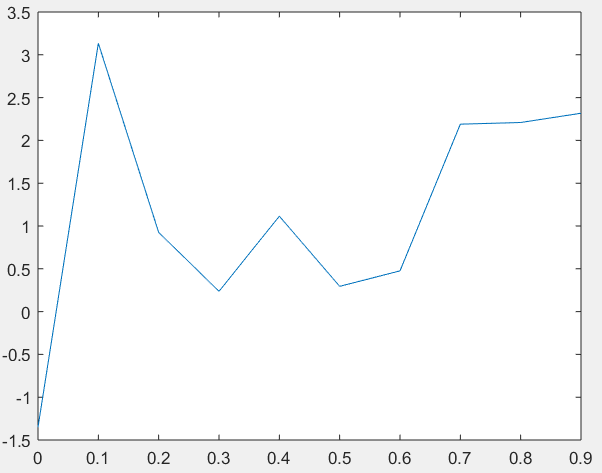


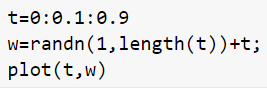
|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Xi | -3 | 0 | 2 | 4 | 7 | 10 | 12 |
| Sum | 1/7 | 2/7 | 3/7 | 4/7 | 5/7 | 6/7 | 7/7 |

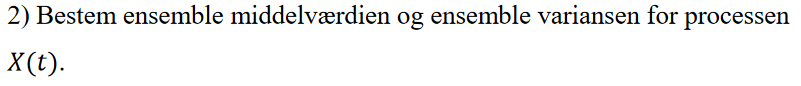
# Opgave 2: Stokastiske Processer



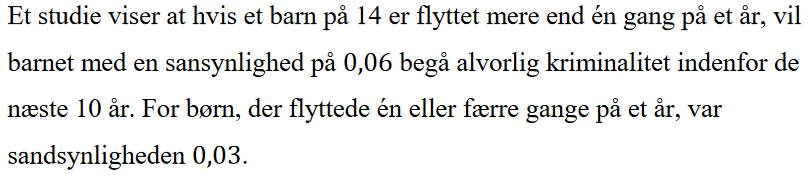


Realisationen er skitseret I matlab vha. Følgende kode

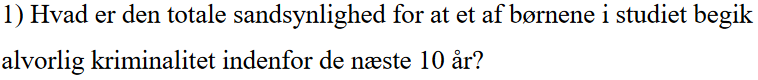




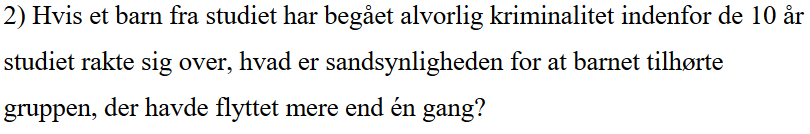
# Opgave 3: Sandsynlighedsregning



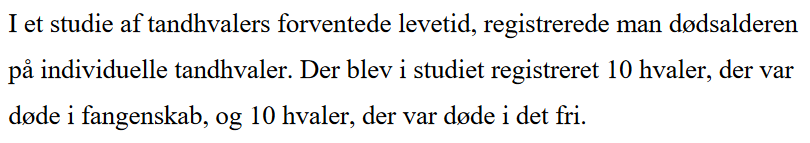


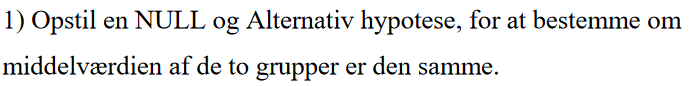


A = Begår Kriminalitet  
B = Man er flyttet mere end én gang  
C = Man er ikke flyttet mere end én gang



# Opgave 4







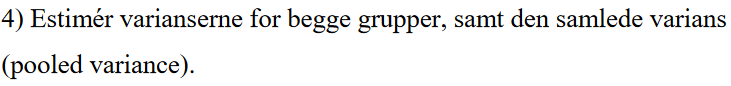
Testen skal være parret, da det giver mulighed for at lave en 1-1 sammenligning mellem vores datapunkter, i dette tilfælde levealder. Vi har desuden også en ens sample size for begge populationer.



Formlen for middelværdi er:

Middelværdi Fangeskab = 6.3

Middelværdi Fri = 37.1



Formlen for variansen er: