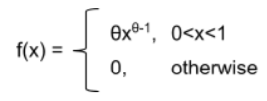
Izmir Institute of Technology

Probability and Statistic

Homework 3

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**Part A**

Method of Moments

U1 = dx = =

X = {0.3, 0.6, 0.8, 0.9}

M1 = 0.65

θ=0.65 θ +0.65

θ=0.65/(1-0.65) = 1.8571

Maximum Likelihood Estimation

P(0.3) =

P(0.6) =

P(0.8) =

P(0.9) =

L’() = = 0

lnF(Xn) = =

=n = P(X)

= 0🡪+ = 0🡪

**Part B**

F(X) =

=

**Conclusion**

In this homework, we used method of moments and maximum likelihood estimaton methods to estimate population paramater . As the sample size N increases, the graph looked like gaussian distribution. The method of moments is fairly simple and yields consistent estimators (under very weak assumptions), though these estimators are often biased. Maximum likelihood estimators have higher probability of being close to the quantities to be estimated and are more often unbiased. Therefore, as I do not want my estimator to be biased, I would choose Maximum Likelihood Estimator.