Statistical Inference Theory - Lab 3
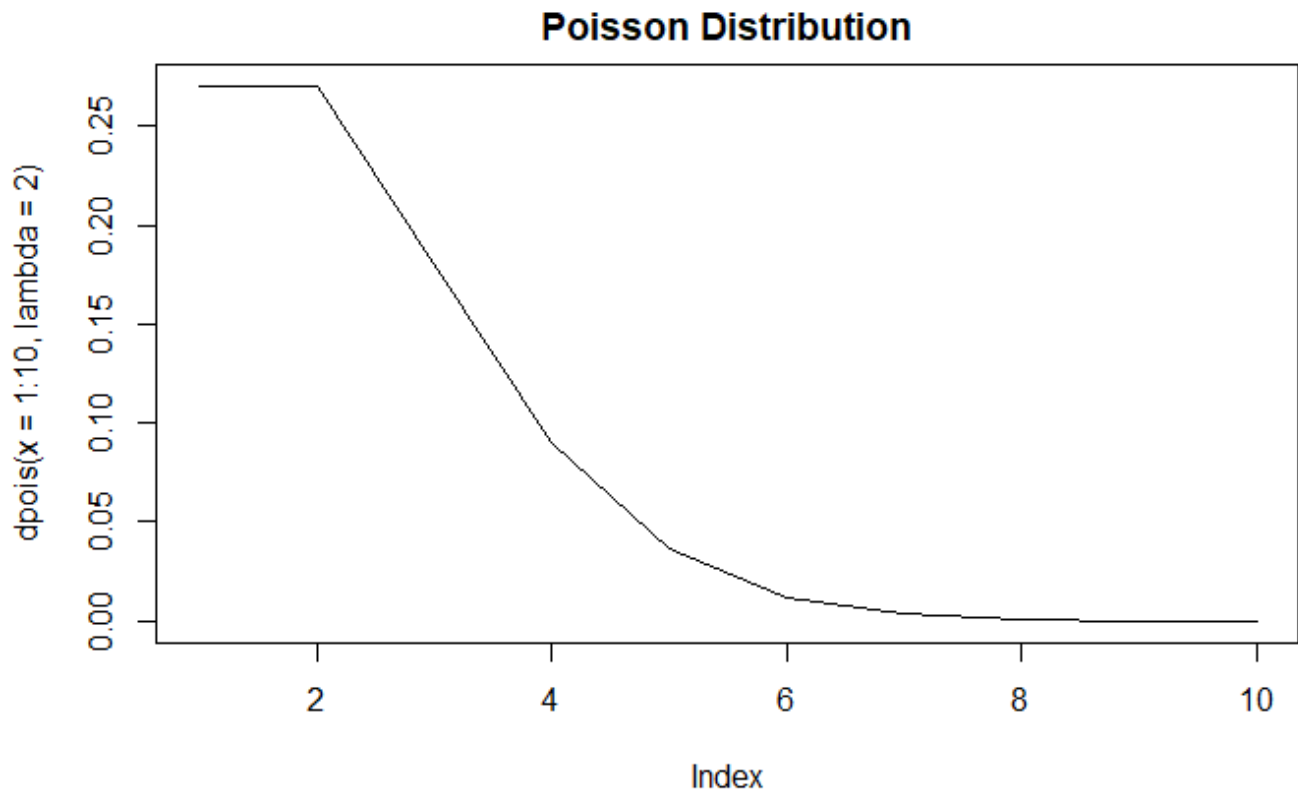
Code ▾

CB.SC.I5DAS20032

Poisson Distribution
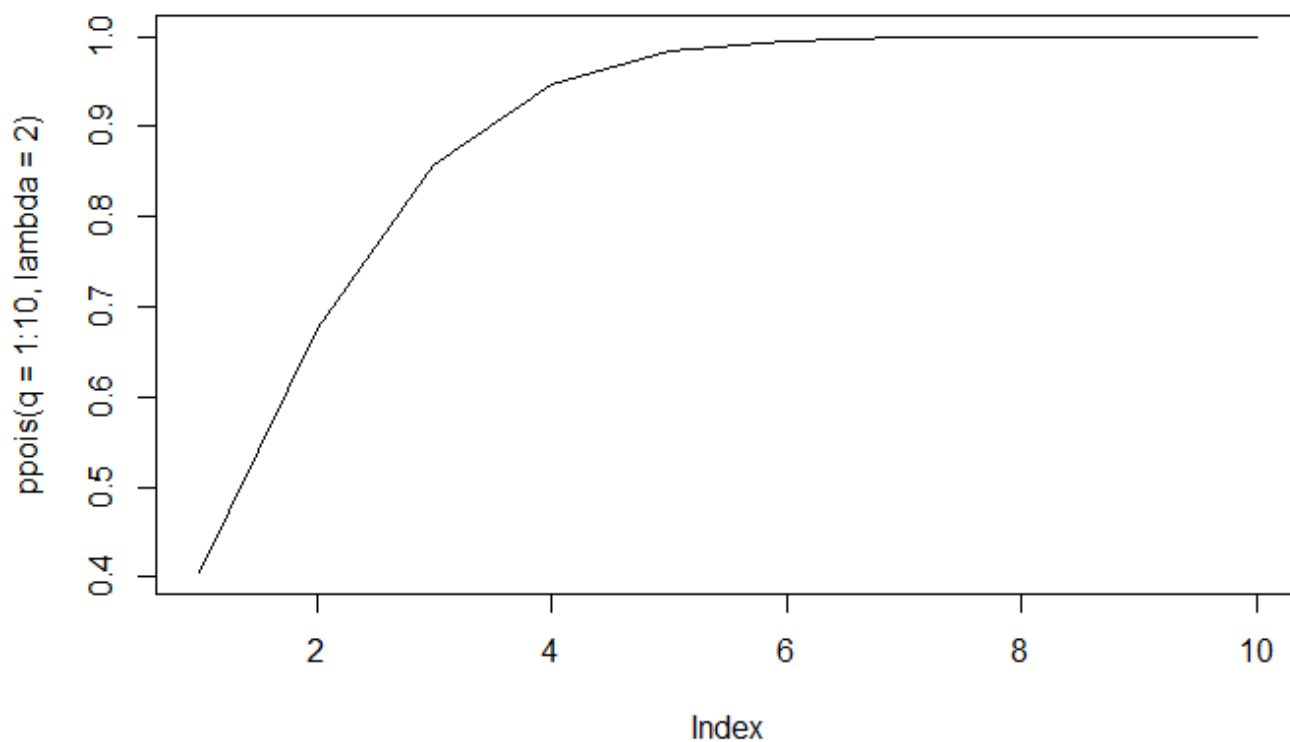
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```
plot(dpois(x = 1:10, lambda = 2), type = 'l',  main = 'Poisson Distribution')
```


Poisson Distribution

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```
plot(ppois(q = 1:10, lambda = 2), type = 'l',  main = 'Poisson Distribution - Cumulative')
```

Poisson Distribution - Cumulative

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```
ppois(q = 3, lambda = 2, lower.tail = FALSE)
```

```
[1] 0.1428765
```

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```
x = 0:100
p = dpois(x, 4)
ex = sum(x*p)
var = sum((x -ex)^2 * p)
var
```

```
[1] 4
```

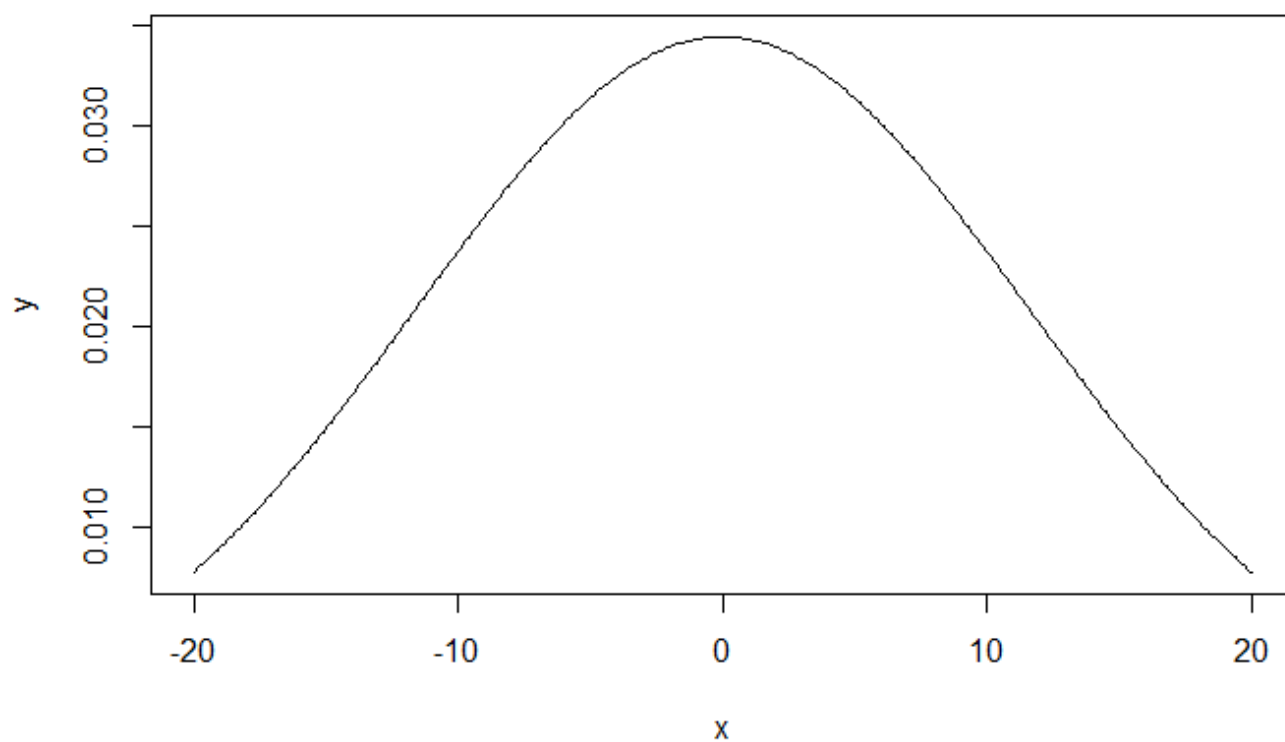<div align="right">Hide</div>

```
round(dpois(0:10, 2), 3)
```

```
 [1] 0.135 0.271 0.271 0.180 0.090 0.036 0.012 0.003
 [9] 0.001 0.000 0.000
```
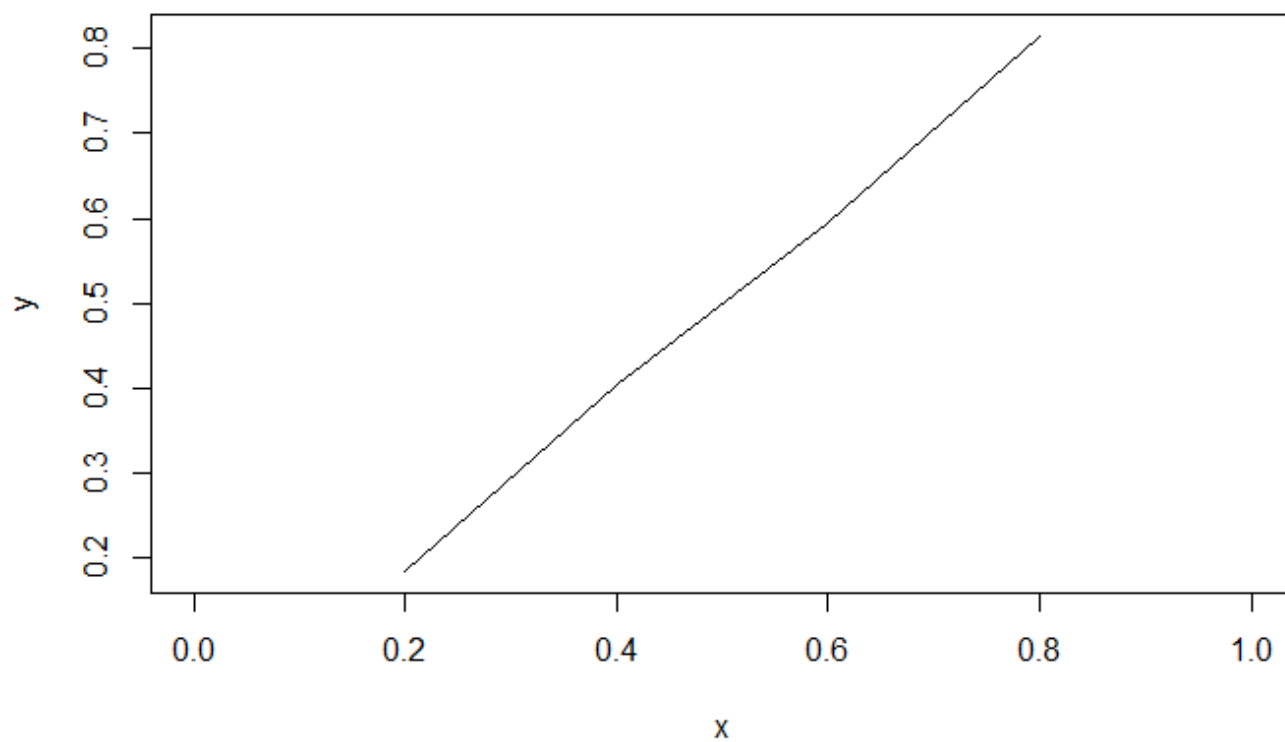
Normal Distribution

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```
x = seq(-20, 20, by = 0.1)
y = dnorm(x, mean(x), sd(x))
plot(x, y, type = 'l', main = 'Normal Distribution')
```

Normal Distribution

```
x = seq(0, 1, by = 0.2)
y = qnorm(x, mean(x), sd(x))
plot(x, y, type = 'l', main = 'Normal Distribution')
```

Normal Distribution

```
hist(rnorm(1000, mean = 5, sd = 2.5), breaks = 30)
```

Histogram of rnorm(1000, mean = 5, sd = 2.5)

rnorm(1000, mean = 5, sd = 2.5)