Probability and Statistics - IT2120

IT24103507

Ex 01)

```r
#Exercise 01

#distribution of X
n <- 50 #n= number of students
p <- 0.85 #p= probability of passing

#at least 47 students passed the test
# X >= 47, so 1 - p(X <= 46), and the distribution is binomial
1 - pbinom(46, size = n, prob = p)
```

```
> #Exercise 01
>
> #distribution of X
> n <- 50 #n= number of students
> p <- 0.85 #p= probability of passing
>
> #at least 47 students passed the test
> # X >= 47, so 1 - p(X <= 46), and the distribution is binomial
> 1 - pbinom(46, size = n, prob = p)
[1] 0.04604658
```

Ex 02)

```r
#Exercise 02

#random variable for the problem X= num of calls per hour

#distribution of X
lambda = 12

#exatly 15 calls received in an hour
# X = 15, and the distribution is poisson
dpois(15, lambda = 12 )
```

```
> #Exercise 02
>
> #random variable for the problem X= num of calls per hour
>
> #distribution of X
> lambda = 12
>
> #exatly 15 calls received in an hour
> # X = 15, and the distribution is poisson
> dpois(15, lambda = 12 )
[1] 0.07239112
```