IT24102453

Lab sheet 06

01)

```
> #Question 1
> n <- 50
> p <- 0.85
>
> # i
> cat("Q1 i) Distribution: X ~ Binomial(n=50, p=0.85)")
Q1 i) Distribution: X ~ Binomial(n=50, p=0.85)>
> # ii
> prob_47_or_more <- 1 - pbinom(46, size = n, prob = p)
> cat("Q1 ii) P(X >= 47):", prob_47_or_more)
Q1 ii) P(X >= 47): 0.04604658
```

Values	
n	50
p	0.85
prob_47_or_more	0.0460465788923019

02)

```
> #Question 2
> lambda <- 12
>
> # i
> cat("Q2 i) Random Variable: X = Number of calls received per hour")
Q2 i) Random Variable: X = Number of calls received per hour
> cat("Q2 ii) Distribution: X ~ Poisson(lambda=12)")
Q2 ii) Distribution: X ~ Poisson(lambda=12)
> prob_15_calls <- dpois(15, lambda)
> cat("Q2 iii) P(X = 15):", prob_15_calls)
Q2 iii) P(X = 15): 0.07239112
>
```

Values	
lambda	12
n	50
p	0.85
prob_15_calls	0.0723911201466387
prob_47_or_more	0.0460465788923019