```
> setwd("C:\\Users\\admin\\Desktop\\IT24104117")
> getwd()
[1] "C:/Users/admin/Desktop/IT24104117"
> #PART 1
> # i) Distribution:
> #    X ~ Binomial(n = 50, p = 0.85)
>
> # ii)P(X >= 47) = 1 - P(X <= 46) = 1 - pbinom(46, size=50, prob=0.85)
> n <- 50
> p <- 0.85
>
> prob_at_least_47 <- 1 - pbinom(46, size = n, prob = p)
> prob_at_least_47
[1] 0.04604658
```

```
> #PART 2
> # i) Random variable X = number of calls in an hour
> # ii) Distribution: X ~ Poisson(lambda = 12)
>
> # iii) Probability exactly 15 calls in an hour:
> lambda <- 12
> prob_exactly_15 <- dpois(15, lambda)
> prob_exactly_15
[1] 0.07239112
>
> cat(sprintf("P(X >= 47) for Binomial(50,0.85) = %.12f\n", prob_at_least_47))
P(X >= 47) for Binomial(50,0.85) = 0.046046578892
> cat(sprintf("P(X = 15) for Poisson(12) = %.12f\n", prob_exactly_15))
P(X = 15) for Poisson(12) = 0.072391120147
```

Values	
lambda	12
n	50
p	0.85
prob_at_least_47	0.0460465788923019
prob_exactly_15	0.0723911201466387