IT24102268

LAB 07

1)

```
> # Uniform distribution between 0 and 40
> a <- 0
> b <- 40
>
> # P(10 <= X <= 25)
> prob1 <- (25 - 10) / (b - a)
> prob1
[1] 0.375
>
>
> lambda <- 1/3
>
> # P(X <= 2)
> prob2 <- pexp(2, rate = lambda)
> prob2
[1] 0.4865829
>
>
> mu <- 100
> sigma <- 15
>
> # P(X > 130)
> prob3_i <- 1 - pnorm(130, mean = mu, sd = sigma)
> prob3_i
[1] 0.02275013
>
>
> # 95th percentile
> iq_95 <- qnorm(0.95, mean = mu, sd = sigma)
> iq_95
[1] 124.6728
```

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