Q.No.1:- Let $Y_1, Y_2, \ldots, Y_n$ be independent, exponentially distributed random variables with mean $\beta$.
   a. Show that $Y_{(1)} = \min(Y_1, Y_2, \ldots, Y_n)$ has an exponential distribution, with mean $\beta/n$. 
b. If $n = 5$ and $\beta = 2$, find $P(Y_{(1)} \leq 3.6)$. 
Q.No.2:- Let $Y_1$ and $Y_2$ be independent and uniformly distributed over the interval $(0, 1)$. Find $P(2Y_1 < Y_2)$.
Continuous Uniform Distribution: \( f(x) = \frac{1}{x_n - x_1}; \ x_1 \leq x \leq x_n; \ \mu = \frac{x_n + x_1}{2}; \ \sigma^2 = \frac{(x_n - x_1)^2}{12} \)

Exponential Distribution: \( f(x) = \lambda e^{-\lambda x}; \ x > 0; \ \mu = \frac{1}{\lambda}; \ \sigma^2 = \frac{1}{\lambda^2} \)