**EXAMPLE:**

**Births in a hospital occurs randomly at the at an average rate of 1.8 birth per hour. Find the following probability**

1. Exactly 5 births in an hour?
2. Less than 3 births will occur in a minute?
3. At least 1 births will occur in 5 minutes?
4. The mean of births in an hour is
5. The variance of births in half hour is
6. The variance of births in half hour is

**Solution:**

It is Poisson(1.8) in an hour

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b…..

= 1.8 ---------- 1 hour = 60 minute

= ? ---------- 1 minute\*λ

= ( in a minute)\*λ

C……..

= 0.03 ---------- 1 minute

= ? ---------- 5 minute\*λ

= \*λ

P(X ≥ 1) = 1 – P( X<1) = 1 – P(X = 0) =

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d…..

= 1.8 ---------- 1 hour

Mean =

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e…………

= 1.8/ 2 =0.9 ( in half an hour)

Variance =

= 0.95 Standard deviation =

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