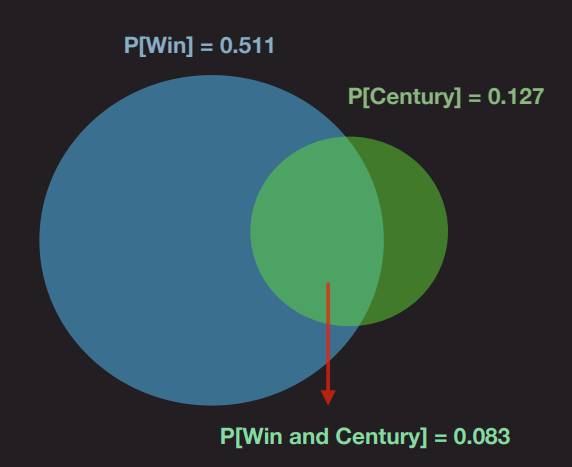
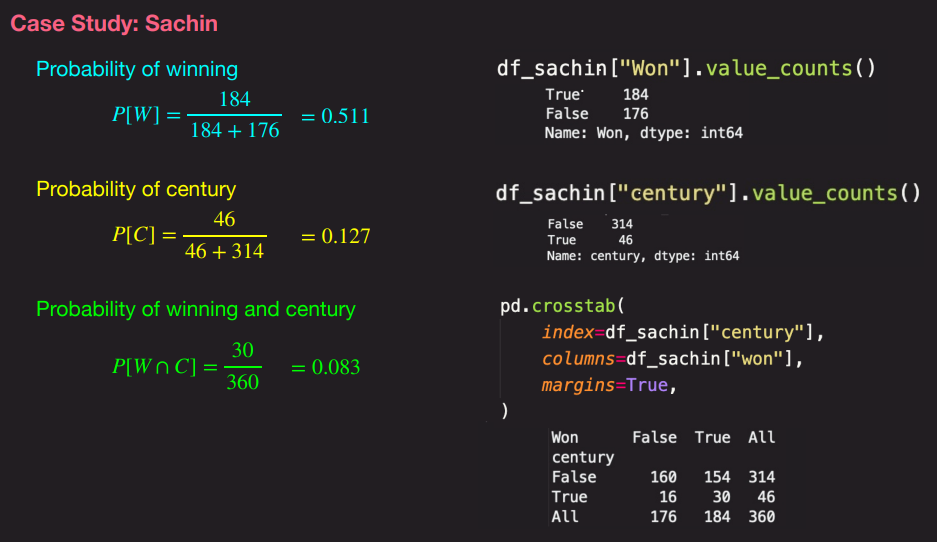
**PROBABILITY**

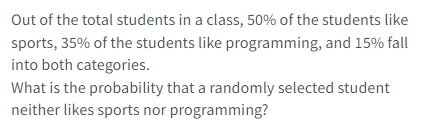
****

Probability of Unions

**P(AUB) 🡪 P(A) + P(B) – P(A∩B)**

P(AUB) is the probability that Sachin won the match or scores a century or both 🡪 0.511 + 0.127 - 0.083 = 0.555

1.

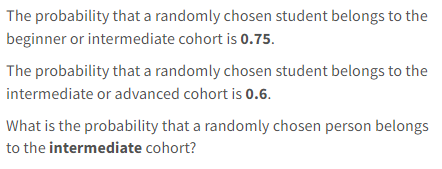


🡪

P(SUP) = P(S) + P(P) – P(S∩P) = 0.5 + 0.35 - 0.15 = 0.7

So, student neither liking sports or programming = 1 - 0.7 = 0.3

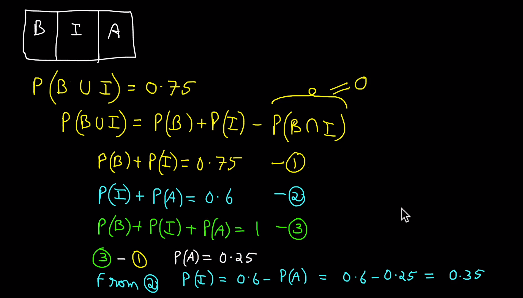
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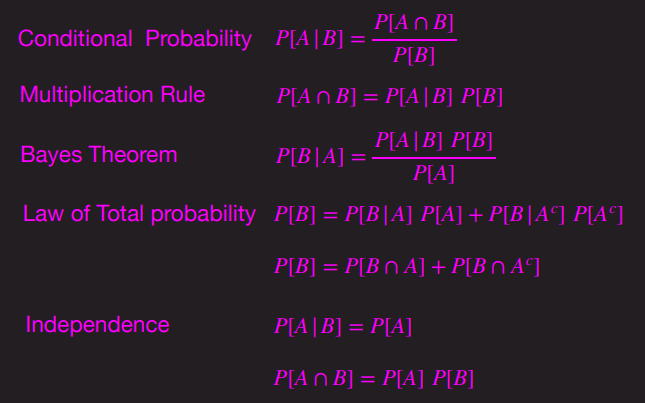


🡪

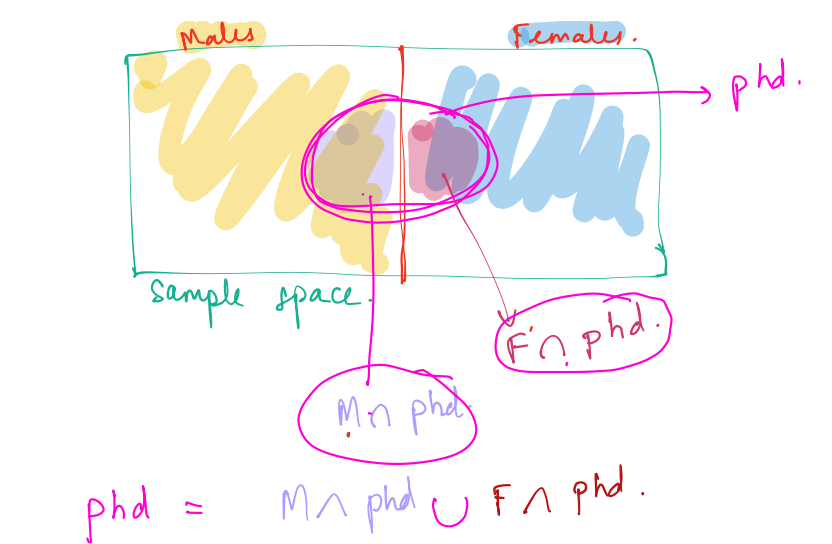
Key point: A student cannot simultaneously belong to 2 cohorts at a time

So, intersection of any two cohorts would be zero



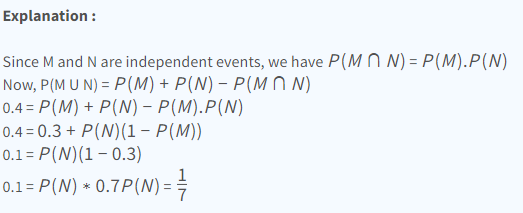


Law of Total Probability

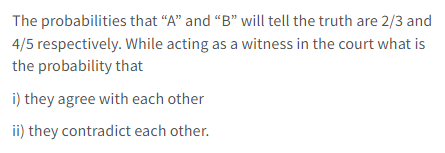


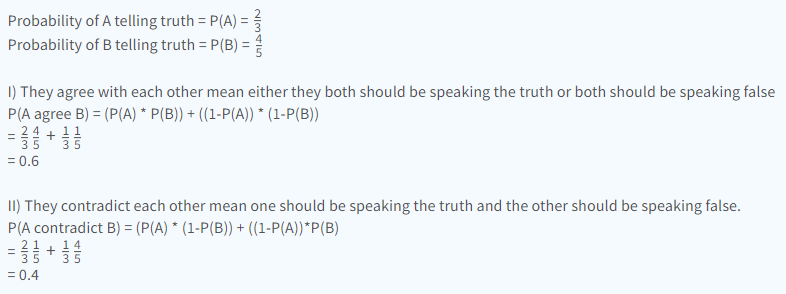
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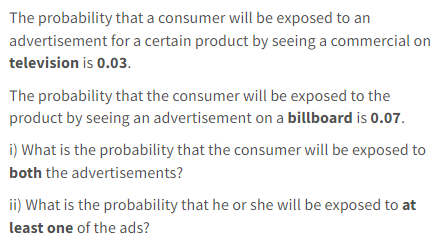


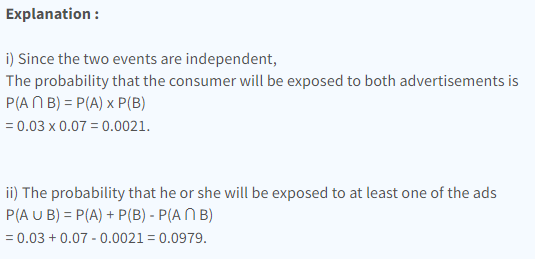
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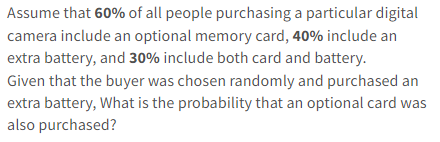


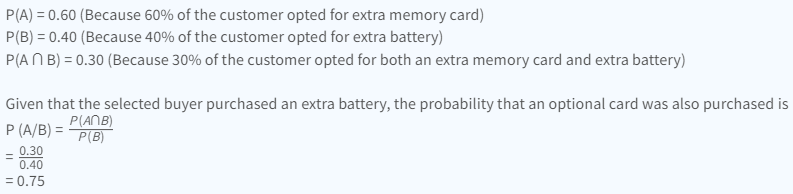
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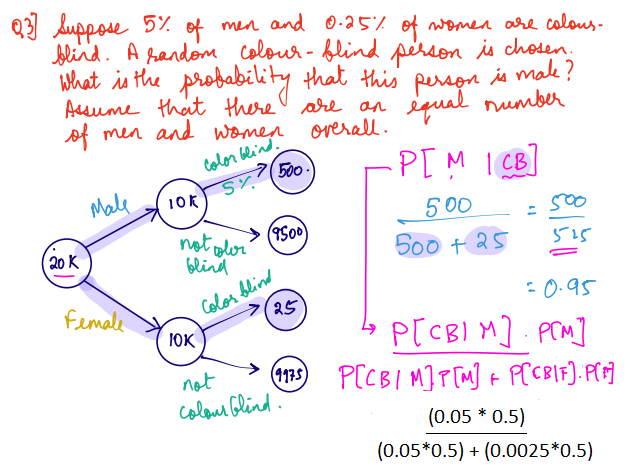


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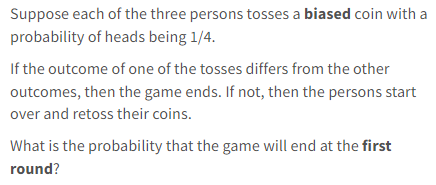


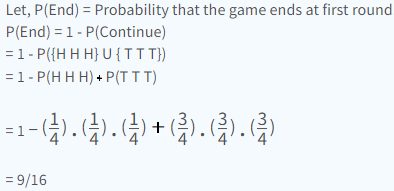


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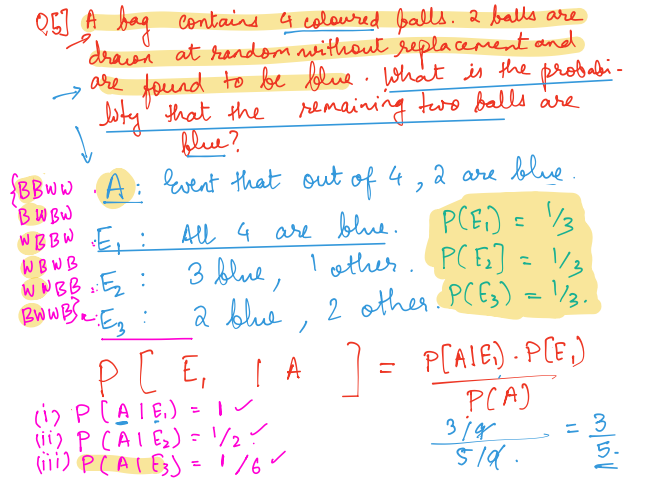


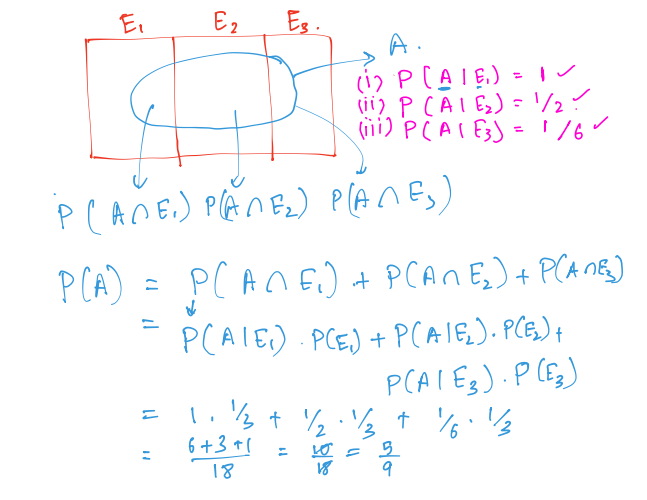
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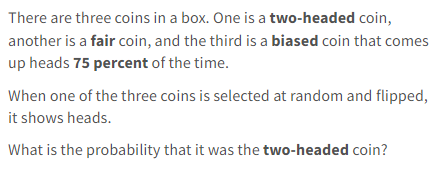


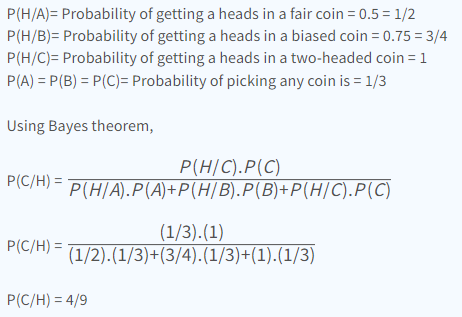
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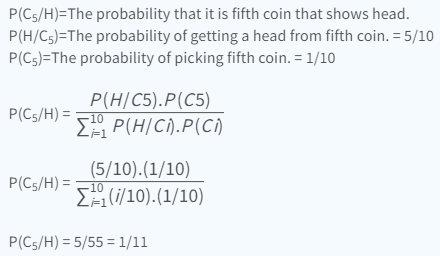
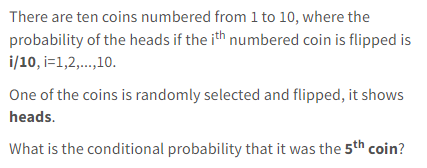


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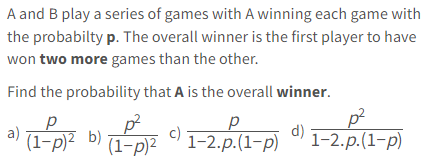


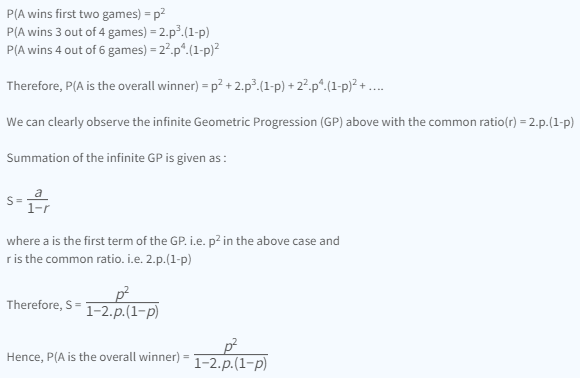


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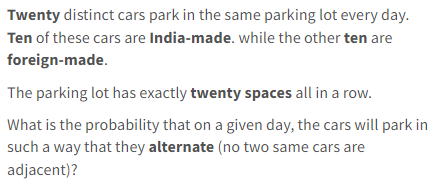


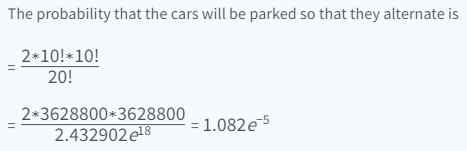
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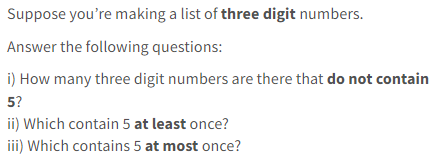


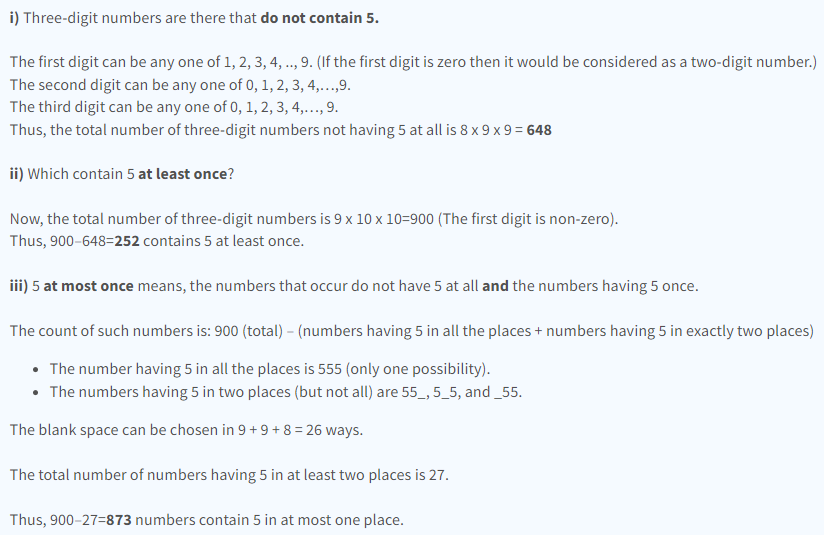
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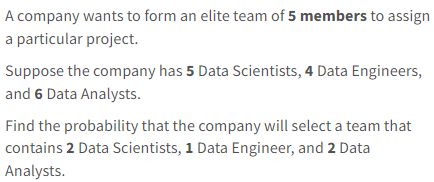


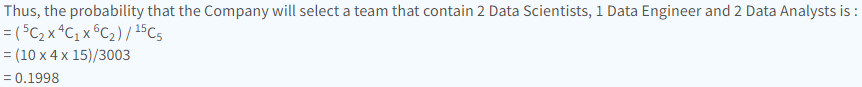
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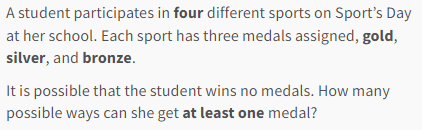


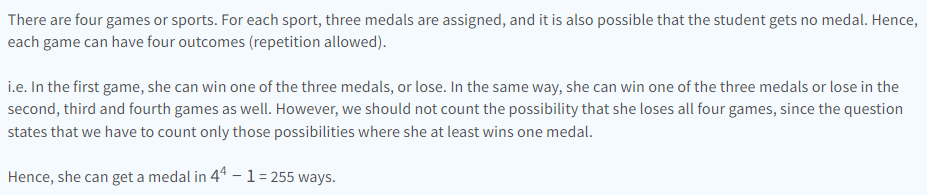
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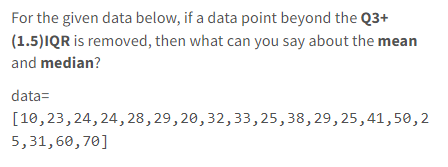


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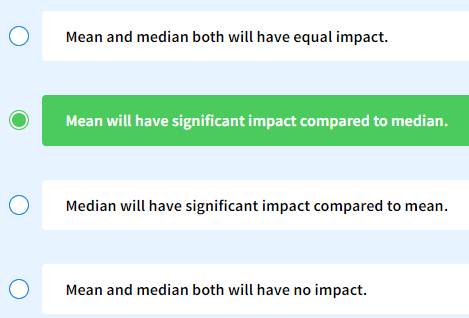


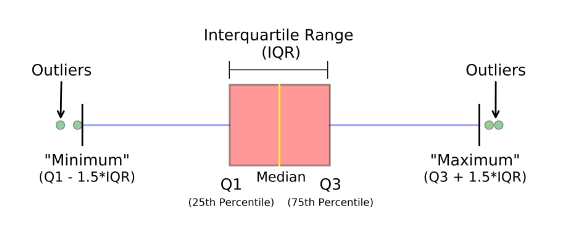


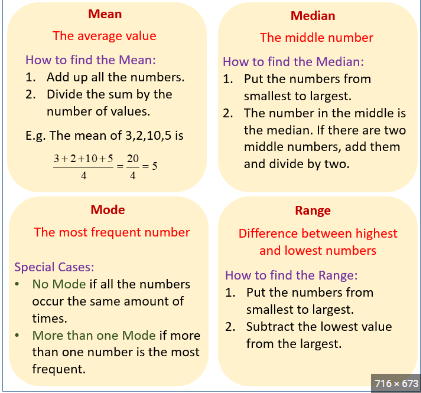
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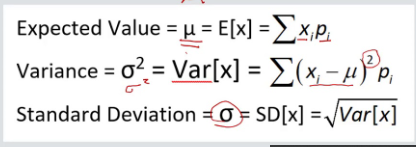


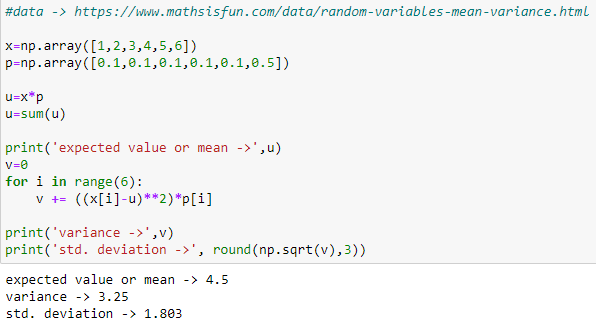
Key-point: Mean would have more impact than median when outliers are removed

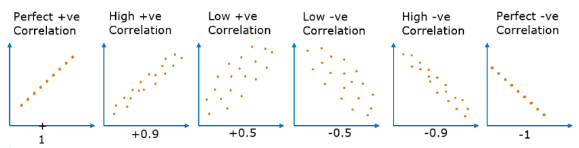








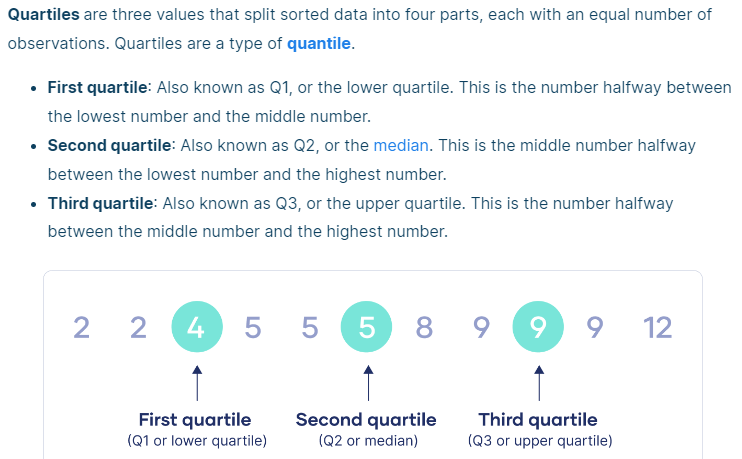


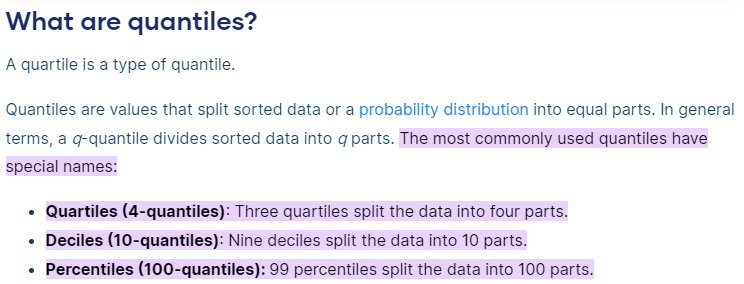


**Variance** is a measure of how far a set of numbers is spread out from the mean. **Covariance** is a measure of how two variables vary together.

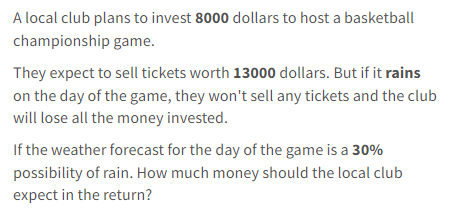
**Cov(X, Y) = Σ (Xi-µ) (Yj-v) / n**

Here µ & v are mean of resp. datasets.

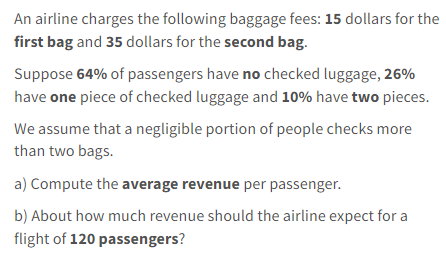


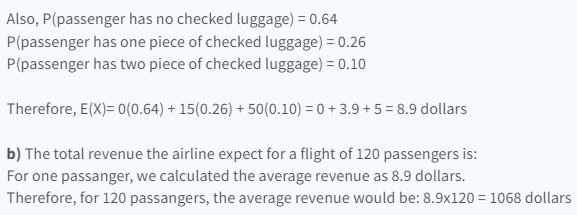


16.

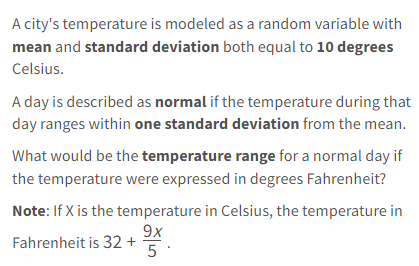


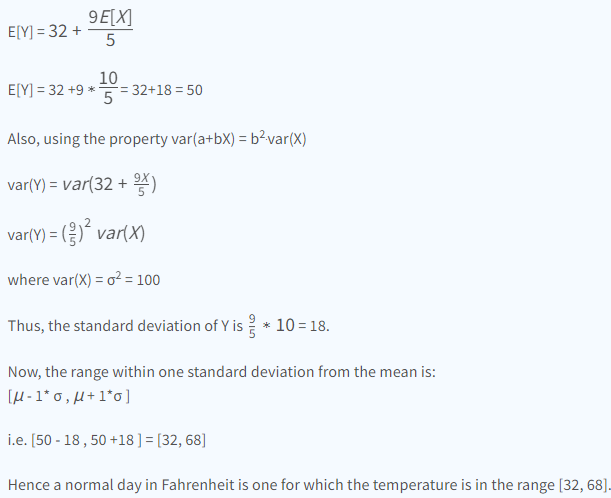
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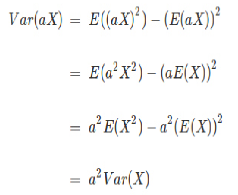




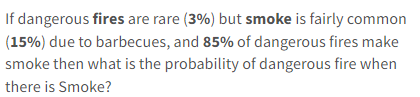
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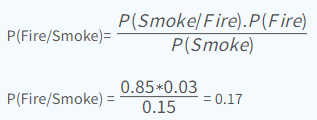






19.





20.

