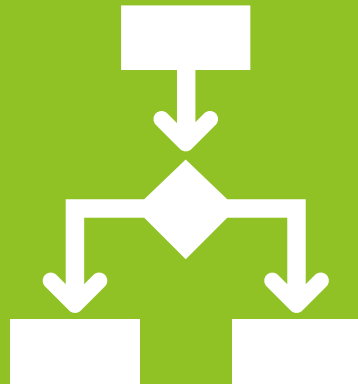


# Hypothesis Testing Insights from the ▶ Northwind Database

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online-ds-ft-100719

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# Purpose

- ▶ Perform hypothesis testing using Northwind database to determine actionable steps management can take to increase sales

# Hypothesis Testing: In a nutshell

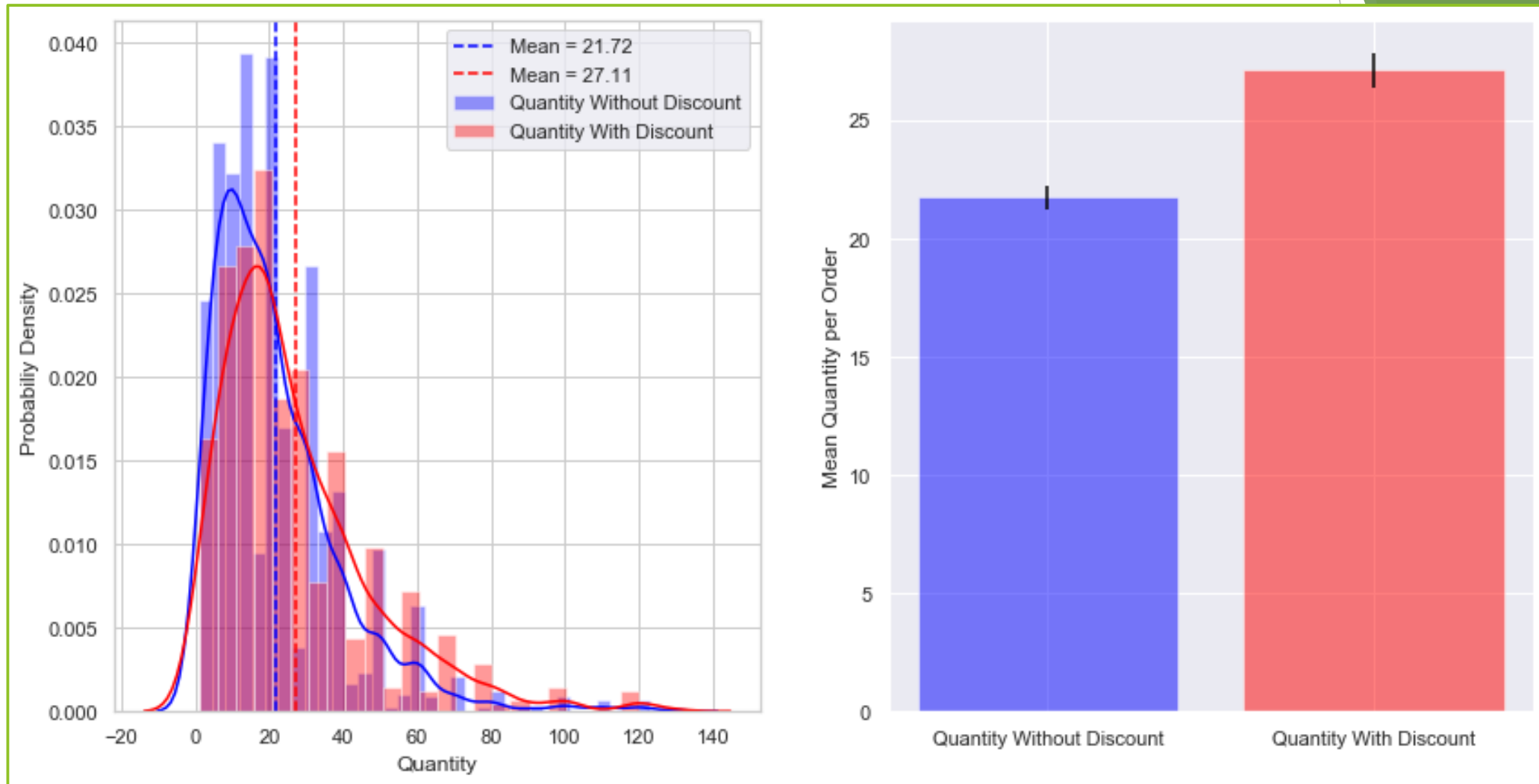
Compare characteristics of two or more sample groups

Calculate the probability (p-value) that observed differences could have occurred purely by chance

If p-value is very small, we conclude difference is significant



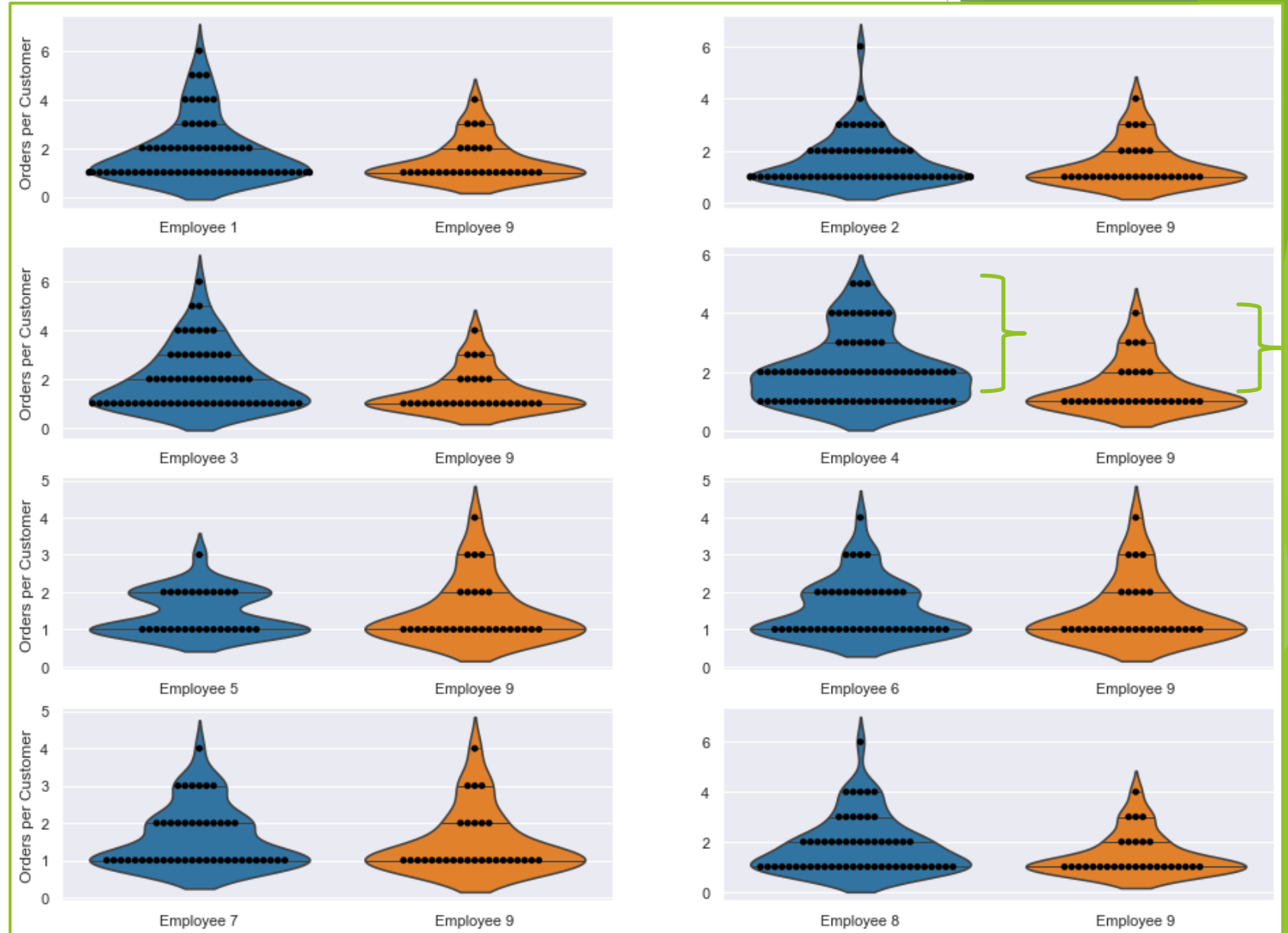
# Discount & Quantity of Product per Order



➤ Significant result! ( $p = 0.0000005$ ) (At 5% discount or greater)

# Repeat Order Customers by Employee

- Significant result!
- $p = 0.034$
- Employee 9 underperforming others



# Time of Year & Quantity of Product per Order



➤ Result not significant ( $p = 0.066$ , 1<sup>st</sup> & 2<sup>nd</sup> Quarter)

## Recommendations



Apply discounts more frequently  
-> increase the quantity of  
products sold per order

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-> minimum needed to have a  
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Customer relationship training for  
employees struggling to secure  
repeat orders

# Future Work



Additional testing for certain employees' performance before & after customer relationship training



Explore tests using additional data from previous or more recent years

Thank you!