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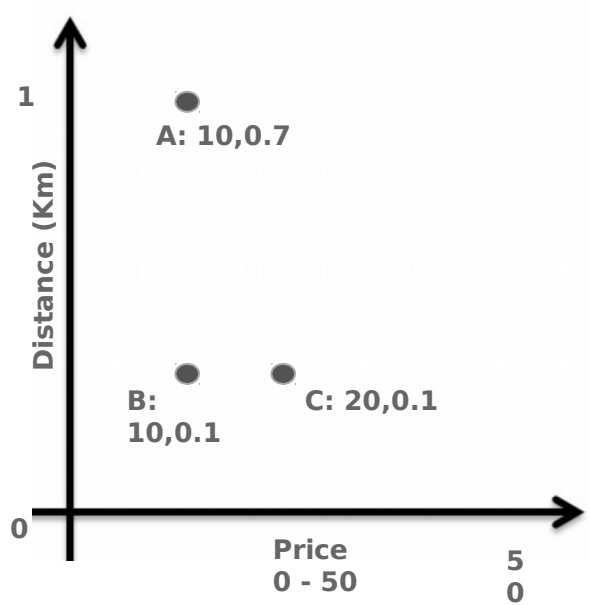
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- Takes the distance between points into account
- Fails when variables have different scales
- Relative Distance between points changes

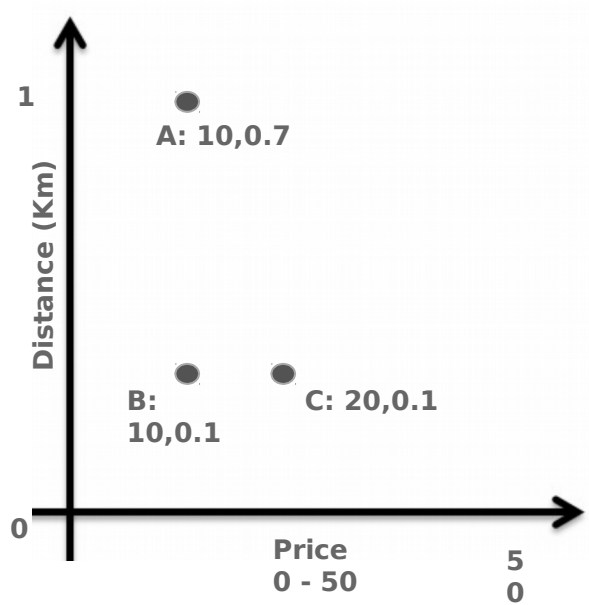
# Issues with Distance Based Algorithms

- Takes the distance between points into account
- Fails when variables have different scales
- Relative Distance between points changes
- Leads to Ambiguous interpretation

# Relative Distance



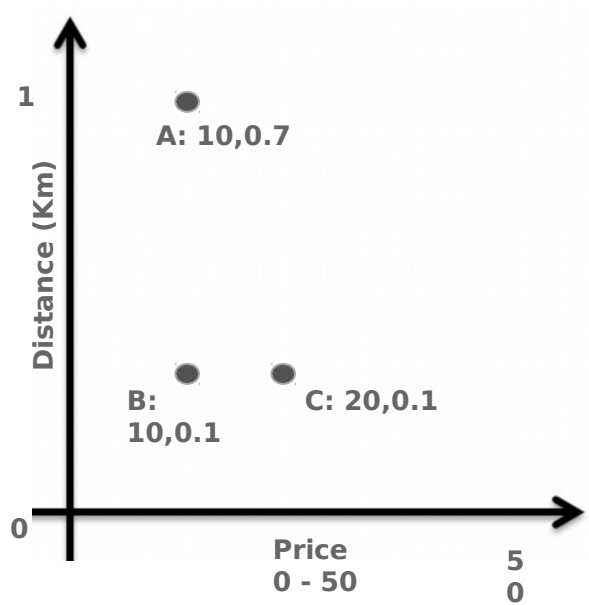
# Relative Distance



BA = 0.6 units

BC = 10 units

# Relative Distance

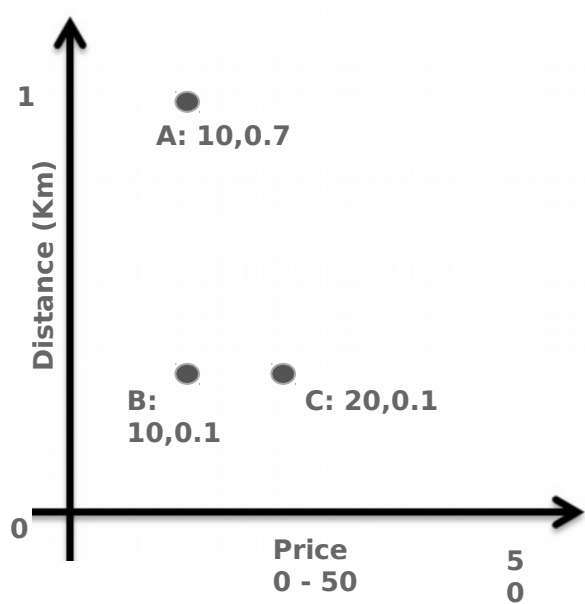


Solution?

BA = 0.6 units  
BC = 10 units



# Relative Distance

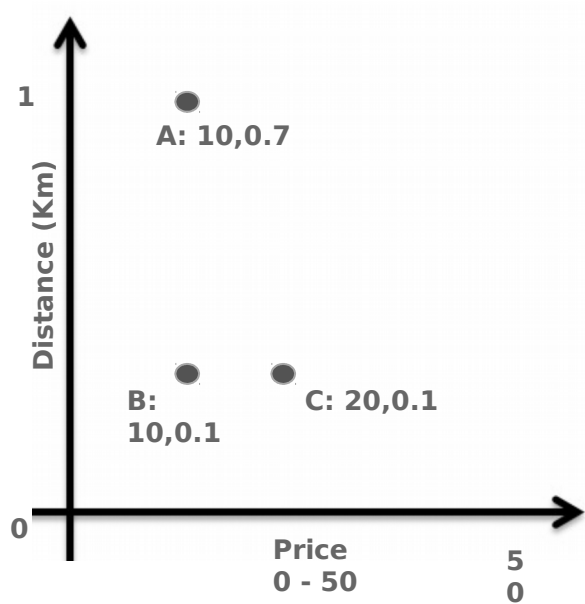


BA = 0.6 units  
BC = 10 units

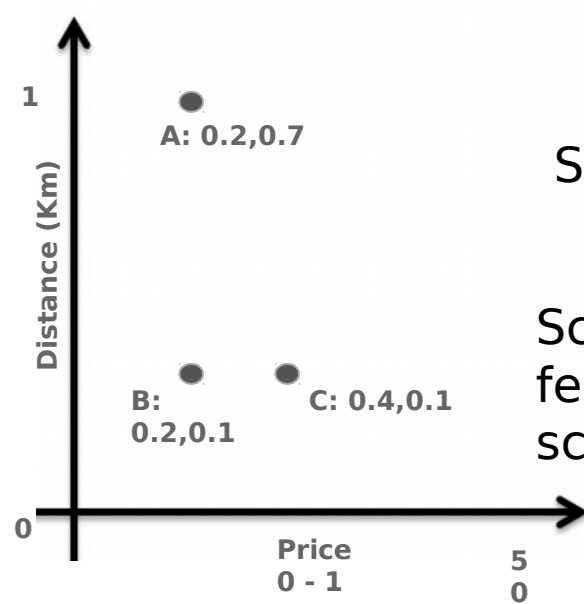
Solution?

Scaling all  
features to same  
scale

# Relative Distance



BA = 0.6 units  
BC = 10 units



Solution?

Scaling all  
features to same  
scale

BA = 0.6 units  
BC = 0.2 units