

# Data Mining Assignment Report

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## Ans 1:

### Summary:

- In the Q1, we had to increase the prices of items according to dynamic pricing scheme.
  - For this purpose, we pre-processed the data using Python and applied apriori on the dataset using apriori node of IBM-SPSS. The consequent was always taken to be itemID and the antecedents were always student-group and hour.
  - Parameters used:
    - Support threshold: **0.5%**
    - Confidence threshold: **2.2%**
  - These rules were again processed for appropriate formats using Python.
  - The processed itemsets were now used in revenue change percentage and penalty calculation using Python.
  - Finally, since, the rules now obtained were very crude, the rules were manually pruned based on the hour, segment weight and price dependency to lower the penalty even further.
  - The following results were obtained:
    - Revenue change = **5.007568300956863%**
    - Penalty = **83026.49999999999**
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