# HW 2 - Data Mining for Technology and Business

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Q1 A table for each couple (Training-Graph, Test-Graph) used in the experiment (five tables in total). The tables must have exactly this format:

| u1 | Training Graph_1 | Test Graph_1 | Compressed Item-Item Graph_1 |
|---|---|---|---|
| Num User Nodes | 943 | 459 | 1650 |
| Num User Edges | 1648 | 1378 | |
| Num Edges | 80000 | 19968 | 854496 |

| u2 | Training Graph_1 | Test Graph_1 | Compressed Item-Item Graph_1 |
|---|---|---|---|
| Num User Nodes | 943 | 653 | 1648 |
| Num User Edges | 1648 | 1386 | |
| Num Edges | 80000 | 19964 | 852246 |

| u3 | Training Graph_1 | Test Graph_1 | Compressed Item-Item Graph_1 |
|---|---|---|---|
| Num User Nodes | 943 | 459 | 1650 |
| Num User Edges | 1648 | 1378 | |
| Num Edges | 80000 | 19968 | 854496 |

| u4 | Training Graph_1 | Test Graph_1 | Compressed Item-Item Graph_1 |
|---|---|---|---|
| Num User Nodes | 943 | 459 | 1650 |
| Num User Edges | 1648 | 1378 | |
| Num Edges | 80000 | 19968 | 854496 |

| u5 | Training Graph_1 | Test Graph_1 | Compressed Item-Item Graph_1 |
|---|---|---|---|
| Num User Nodes | 943 | 459 | 1650 |
| Num User Edges | 1648 | 1378 | |
| Num Edges | 80000 | 19968 | 854496 |

Q2 The Average-Normalized-Discounted-Cumulative-Gain of the the implemented method.

AvgNDCG= **0.9833**

Q3 A short, but complete, description of your method for movies recommendation for groups.

1. Only groups included in the python file are considered, 5 of them in total.
2. We add a for loop inside existing for loop through current groups, so that we access each groups user and his/her importance weight.
3. We call preference vector and pagerank for particular user of the group, and multiply its recommendation weight by the importance weight of the user.
4. We append each adjusted pagerank recommendation items and coefficients to a list, and call sorting function on it.
5. Sorting function sorts by coefficient, and returns items, which get written to csv output file.