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Homework 1

CSCI 3104
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Problem 1

The Netflix recommendation system uses three main structures to curate a unique profile for each user. These are: Answer to the problem goes here.

1. The User - and the direct data they provide (i.e., what is watched, when it is watched, how they have rated media, etc.)
2. Taggers - people paid to watch and tag all the media on Netflix with the media's unique identifiers
3. Machine Learning Algorithm - ties everything together

Netflix uses the user data to create communities of users who watch similar tags frequently. There are more than 2,000 unique communities currently and a single user can reside in multiple communities concurrently.

The machine learning algorithm at the heart of this process creates something similar to a weighted graph which places users with similar tag histories in clusters. forming the mentioned 'communities'. Media eliciting a positive response is shared with nearby located users. This is how the Netflix recommendation system works in a nutshell.

Here is an example typesetting mathematics in LaTeX

$$X(m,n) = \left\{ \begin{array}{ll} x(n), & \text{for } 0 \leq n \leq 1 \\ \frac{x(n-1)}{2}, & \text{for } 0 \leq n \leq 1 \\ \log_2 \lceil n \rceil & \text{for } 0 \leq n \leq 1 \end{array} \right\} = xy$$

Problem 1 part 3 answer here.

Here is an example of how you can typeset algorithms. There are many packages to do this in LaTeX.

Algorithm 1: Caption for code

```
from package import Class # Mesh required for..

cinstance = Class.from_obj('class.obj')
cinstance.go()
```

Problem 1 part 4 answer here.

Here is an example of how you can insert a figure.

Problem 2

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Figure 1: Heidi attacked by a string.