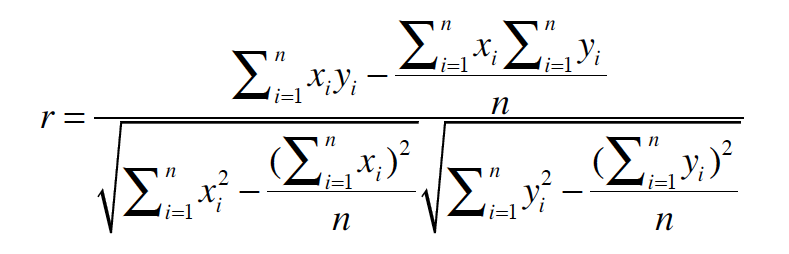
\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* Finding Similarity \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

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float PearsonSimilarity(User rating\_x[ ], User rating\_y[ ])

{

sum\_xy = 0;

sum\_x = 0;

sum\_y = 0;

sum\_xx = 0;

sum\_yy = 0;

for(int i=0; i<n; i++)

if (rating\_x[i] && rating\_y[i] ) // when there is some rating of x and y

{

x = rating\_x[i];

y= rating\_y[j];

sum\_xy += x \* y;

sum\_x += x;

sum\_y += y;

sum\_xx += x\*x;

sum\_yy += y\*y;

}

denominator = sqrt ( sum\_xx - (sum\_x ^ 2) / n ) \* sqrt ( sum\_yy - (sum\_y ^ 2) / n);

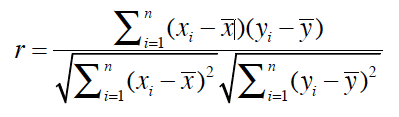
if (denominator = 0)

return 0;

else

return ( sum\_xy - (sum\_x \* sum\_y / n ) / denominator;

}



float PearsonSimilarity ( User rating\_x[ ], User rating\_y[ ] )

{

for (i=0; i<n; i++) // sum of rating of users x & y

{

if (rating\_x[i] )

x + = rating\_x[i];

if (rating\_y[i] )

y += rating\_y[i];

}

avg\_x = x / n; avg\_y = y / n; // calculate mean value of x & y

for (i=0; i<n; i++)

{

if (rating\_x[i] )

diff\_x = rating\_x[i] - avg\_x;

if (rating\_y[i] )

diff\_y = rating\_y[i] - avg\_y;

sum\_xy += diff\_x \* diff\_y;

sum\_xx += diff\_x \* diff\_x;

sum\_yy += diff\_y \* diff\_y;

}

denominator = sqrt ( sum\_xx \* sum\_yy );

if (denominator = 0)

return 0;

else

return (sum\_xy / denominator);

}