Calculating optimal parameters for SVD algorithm

In [1]:
```
from surprise import Dataset, Reader, KNNWithMeans, SVD
from surprise.model_selection import GridSearchCV

file_path = './ratings.csv'
reader = Reader(line_format='user item rating timestamp', sep='\t')
data = Dataset.load_from_file(file_path, reader=reader)

svd_param_grid = {
    'n_factors': [10, 20, 30, 40, 50],
    'n_epochs': [10, 20, 30],
    'biased': [True]
}
svd_gs = GridSearchCV(SVD, svd_param_grid, measures=['rmse'], cv=3)
svd_gs.fit(data)
svd_gs.best_params['rmse']
```

Out[1]:
```
{'n_factors': 20, 'n_epochs': 30, 'biased': True}
```

Calculating optimal parameters for KNNWithMeans algorithm

In [2]:
```
knn_param_grid = {
    'k': [10, 20, 30, 40, 50, 60],
    'sim_options':{
        'name': ['cosine', 'pearson'],
        'user_based': [False]
    }
}
knn_gs = GridSearchCV(KNNWithMeans, knn_param_grid, measures=['rmse'], cv=3)
knn_gs.fit(data)
knn_gs.best_params['rmse']
```

```
Computing the cosine similarity matrix...
Done computing similarity matrix.
Computing the cosine similarity matrix...
Done computing similarity matrix.
Computing the cosine similarity matrix...
Done computing similarity matrix.
Computing the pearson similarity matrix...
Done computing similarity matrix.
Computing the pearson similarity matrix...
Done computing similarity matrix.
Computing the pearson similarity matrix...
Done computing similarity matrix.
Computing the cosine similarity matrix...
Done computing similarity matrix.
Computing the cosine similarity matrix...
Done computing similarity matrix.
Computing the cosine similarity matrix...
Done computing similarity matrix.
Computing the pearson similarity matrix...
Done computing similarity matrix.
Computing the pearson similarity matrix...
Done computing similarity matrix.
Computing the pearson similarity matrix...
Done computing similarity matrix.
Computing the cosine similarity matrix...
Done computing similarity matrix.
```

```
Done computing similarity matrix.
Computing the cosine similarity matrix...
Done computing similarity matrix.
Computing the pearson similarity matrix...
Done computing similarity matrix.
Computing the pearson similarity matrix...
Done computing similarity matrix.
Computing the pearson similarity matrix...
Done computing similarity matrix.
Computing the cosine similarity matrix...
Done computing similarity matrix.
Computing the cosine similarity matrix...
Done computing similarity matrix.
Computing the cosine similarity matrix...
Done computing similarity matrix.
Computing the pearson similarity matrix...
Done computing similarity matrix.
Computing the pearson similarity matrix...
Done computing similarity matrix.
Computing the pearson similarity matrix...
Done computing similarity matrix.
Computing the cosine similarity matrix...
Done computing similarity matrix.
Computing the cosine similarity matrix...
Done computing similarity matrix.
Computing the cosine similarity matrix...
Done computing similarity matrix.
Computing the pearson similarity matrix...
Done computing similarity matrix.
Computing the pearson similarity matrix...
Done computing similarity matrix.
Computing the pearson similarity matrix...
Done computing similarity matrix.
Computing the cosine similarity matrix...
Done computing similarity matrix.
Computing the cosine similarity matrix...
Done computing similarity matrix.
Computing the cosine similarity matrix...
Done computing similarity matrix.
Computing the pearson similarity matrix...
Done computing similarity matrix.
Computing the pearson similarity matrix...
Done computing similarity matrix.
Computing the pearson similarity matrix...
Done computing similarity matrix.
```

Out[2]:

```
{'k': 60, 'sim_options': {'name': 'cosine', 'user_based': False}}
```