I have been tasked with data mining association rules from Dillard’s point-of-sales data for the purposes of rearranging the planograms of the store. In layman’s terms, determining which items people tend to buy together so that they can be placed near each other in order to facilitate additional sales. For budgetary reasons, only 20 moves can be made across all of Dillard’s locations. This assignment focuses on identifying the 100 items that are the best candidates for in-store relocation. For the purposes of our analysis, a regional subset of the greater Denver area of stores was taken from the data, for the purpose of both reducing the data set to a more reasonable size and to hopefully focus the analysis on a more homogenous market segment. The following SKU’s have been identified as good candidates for the marketing program:

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| {3908011} | {3978011} | {3537981} | {913783} | {3854099} | {2708353} | {3013129} | {2466897} | {3894099} | {3561221} |
| {3998011} | {776350} | {803921} | {4008011} | {3053129} | {4208011} | {4072567} | {5076322} | {4498011} | {2258366} |
| {2726578} | {3871688} | {4108011} | {3683946} | {4062567} | {1226187} | {4746413} | {1842285} | {3874099} | {2288366} |
| {3968011} | {3524026} | {1968367} | {264715} | {4976322} | {5108107} | {4776413} | {1933241} | {4686413} | {4440924} |
| {2716578} | {2783996} | {3559555} | {5079809} | {4138348} | {5467377} | {4148348} | {4928011} | {108507} | {2366897} |
| {3988011} | {1009332} | {1832285} | {944478} | {1943241} | {1047565} | {3448186} | {2292671} | {4329285} | {3949538} |
| {3898011} | {5327384} | {4992993} | {726718} | {2698353} | {7915} | {4756413} | {39633} | {1310252} | {2396897} |
| {3690654} | {5268597} | {1206132} | {2072671} | {4484478} | {566969} | {3751221} | {3884099} | {5028011} | {3968356} |
| {348498} | {1184024} | {3161221} | {4112626} | {3864099} | {3787564} | {2784759} | {1658506} | {3611367} | {448103} |
| {3582465} | {3619770} | {2988370} | {3868338} | {267565} | {1658851} | {5317384} | {2688353} | {3631365} | {2386897} |

It is my personal recommendation that Dillard’s select the 20 highest profit margin SKU’s from the list above and focus its efforts on changing the planogram of only one store. In this way, Dillard’s will be able to observe if this style of marketing boosts sales in a significant way, and if so, apply the method to other stores in regions across the US.