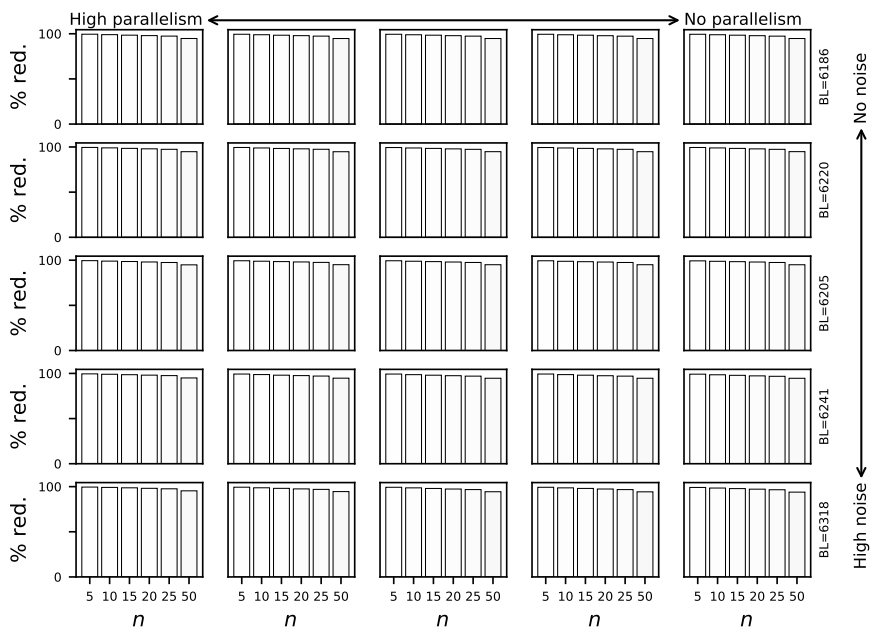


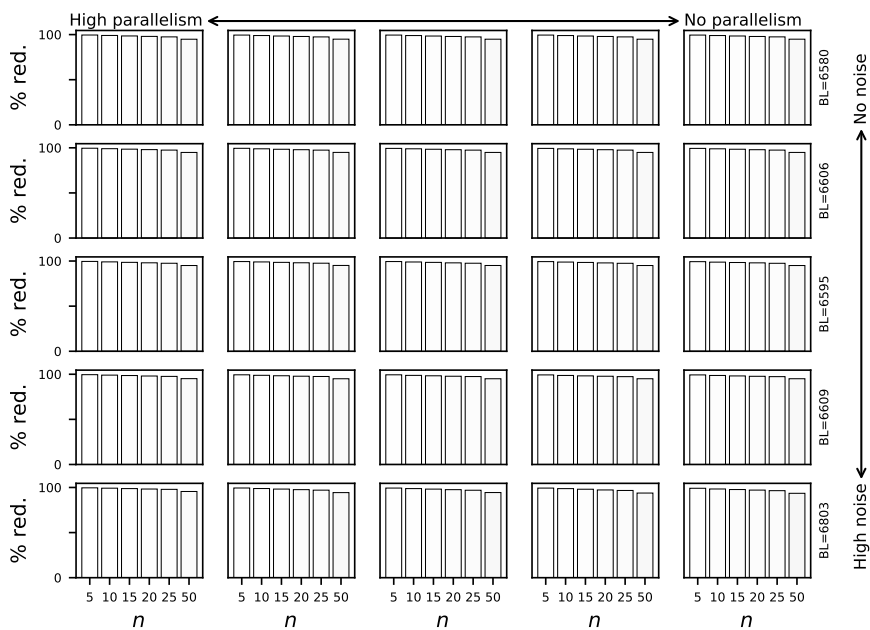
Appendix 2

.1 Model-Based Prefix Imputation(PMc).

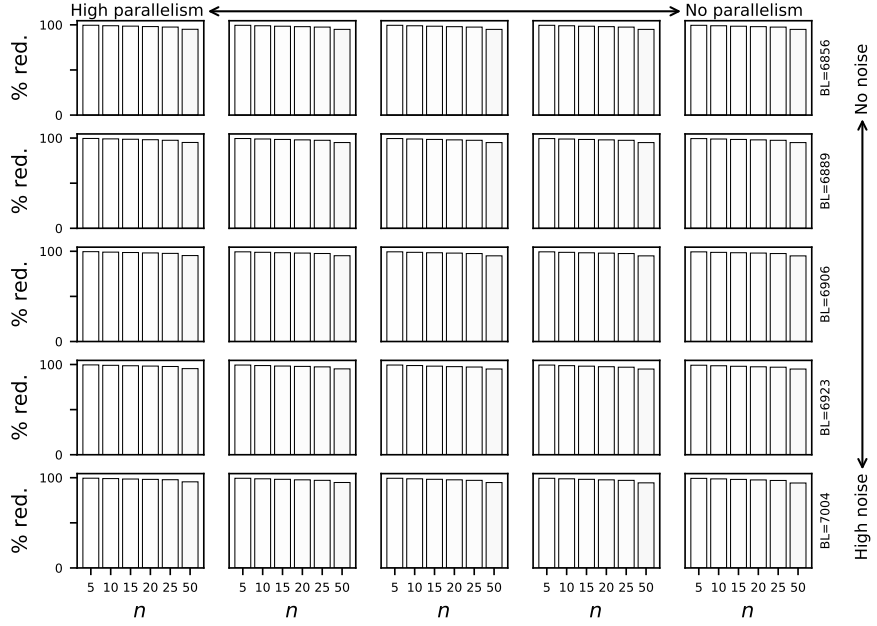
In this section, we provide the complete set of results for the experiments with $a12$, $a22$, and $a32$ synthetic events logs for the PMc stateless approach.



(a) Skewness of decisions level 0

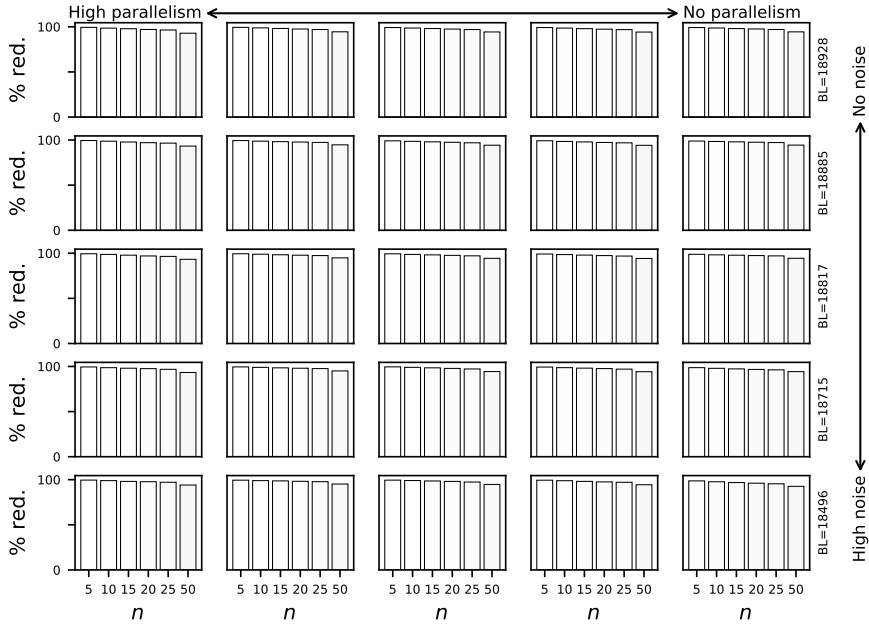


(b) Skewness of decisions level 1

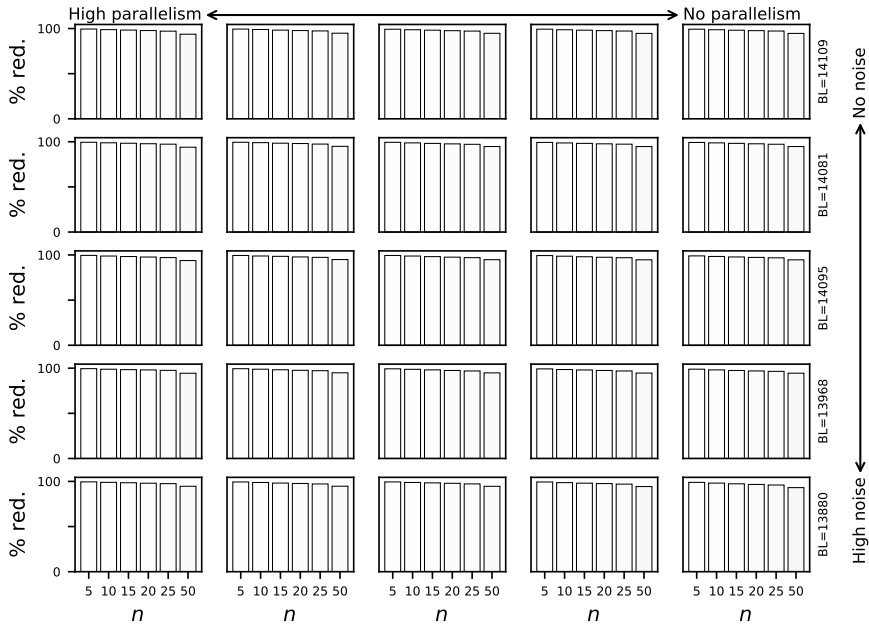


(c) Skewness of decisions level 2

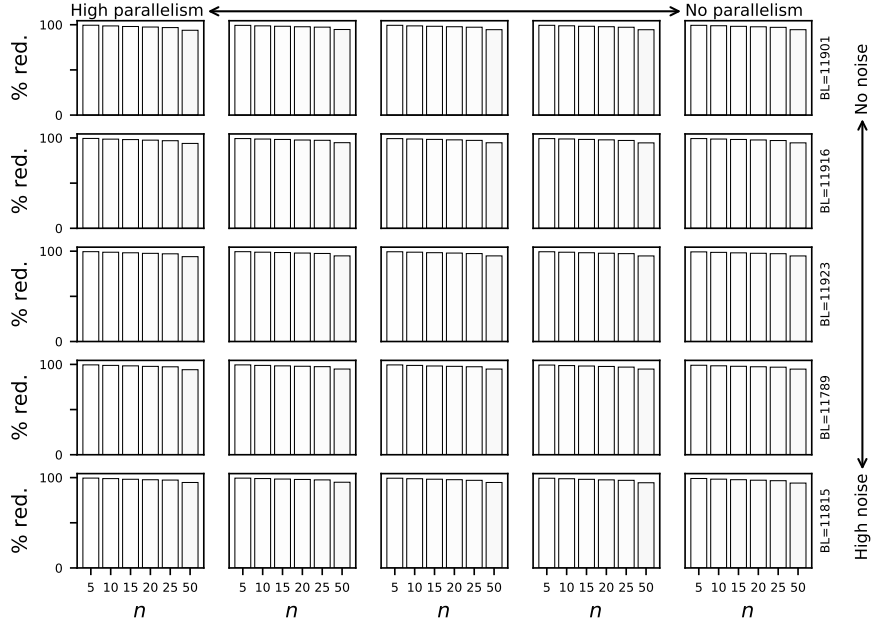
Figure 6: Percentage reduction in memory footprint w.r.t. the baseline (BL) for $a12$ event logs with different skewness of decisions and noise levels with PMc as a heatmap. A dark color represents the worst value of the respective metric, while brighter colors encapsulate its best values. The value n on the X-axis is the maximum number of cases allowed to be retained in D_C . The number on the secondary Y-axis is the maximum states consumed by the baseline (BL).



(a) Skewness of decisions level 0

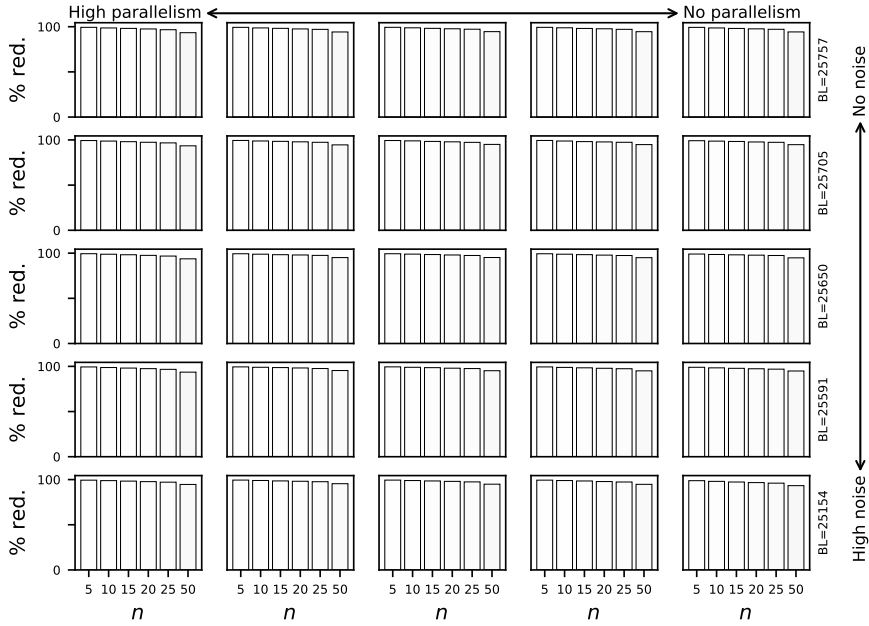


(b) Skewness of decisions level 1

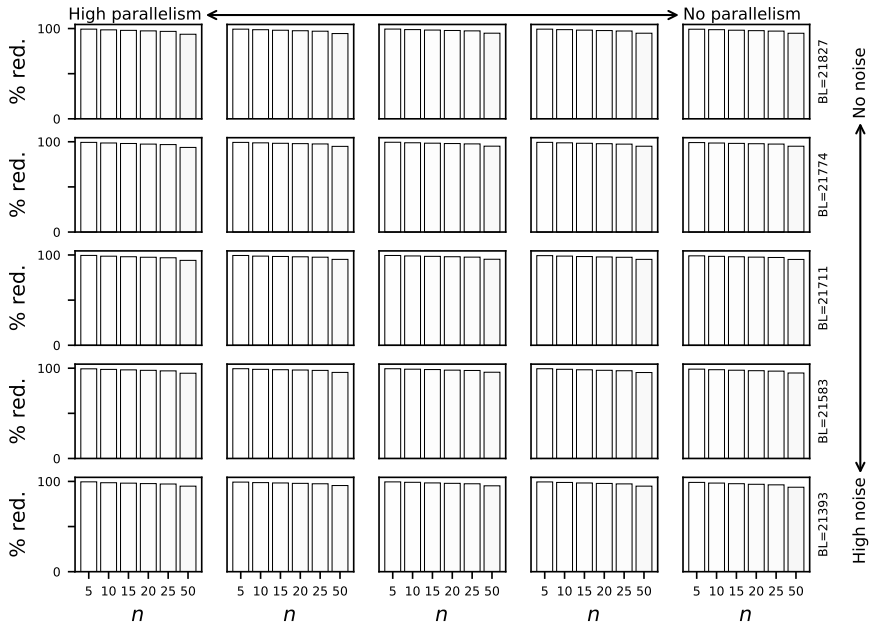


(c) Skewness of decisions level 2

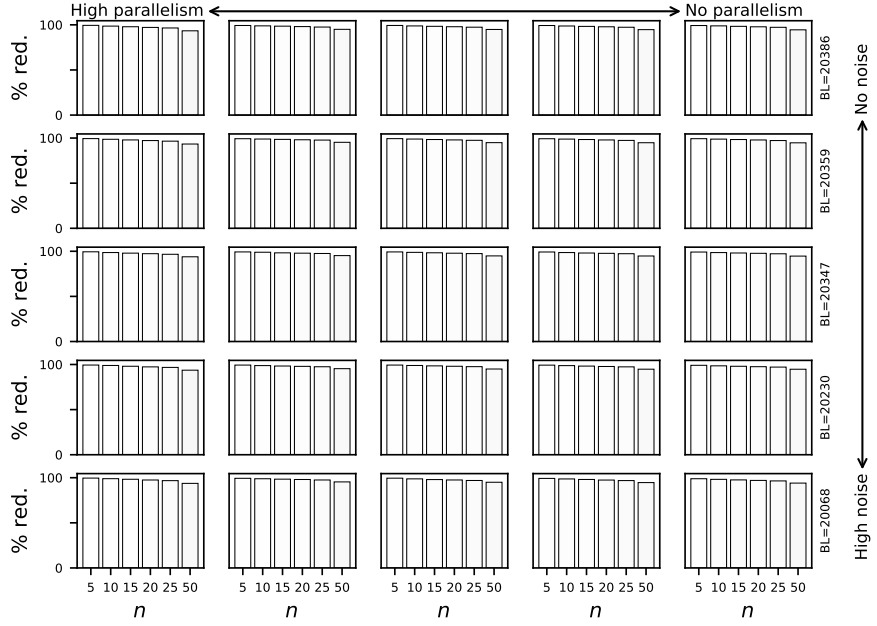
Figure 7: Percentage reduction in memory footprint w.r.t. the baseline (BL) for *a22* event logs with different skewness of decisions and noise levels with *PMc* as a heatmap. A dark color represents the worst value of the respective metric, while brighter colors encapsulate its best values. The value n on the X-axis is the maximum number of cases allowed to be retained in D_C . The number on the secondary Y-axis is the maximum states consumed by the baseline (BL).



(a) Skewness of decisions level 0

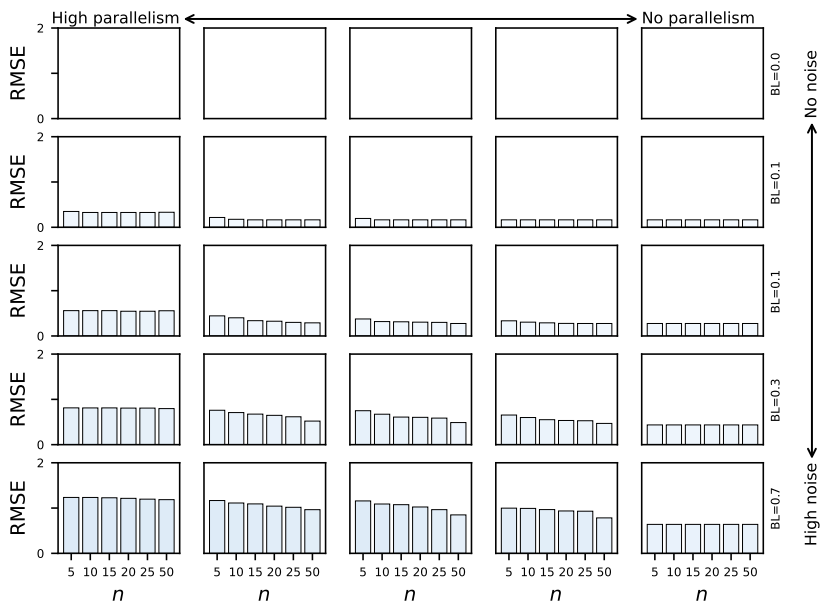


(b) Skewness of decisions level 1

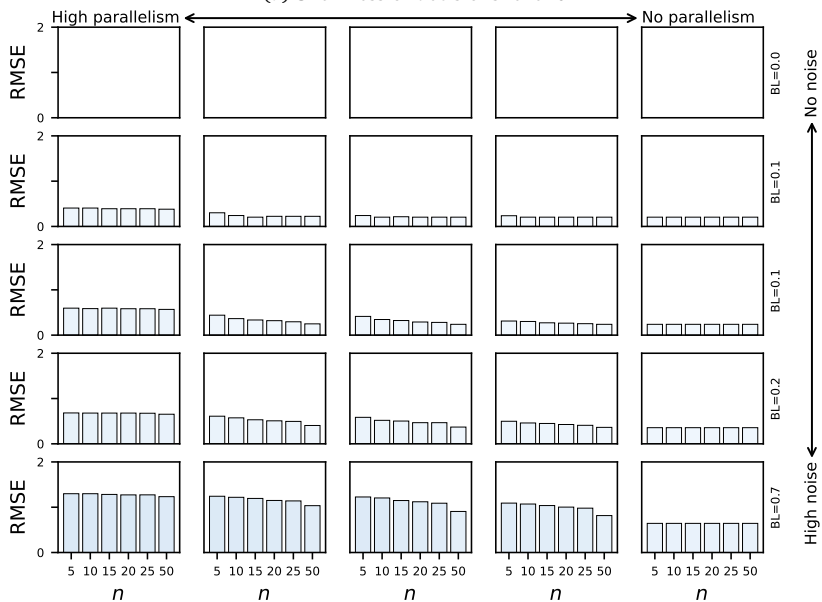


(c) Skewness of decisions level 2

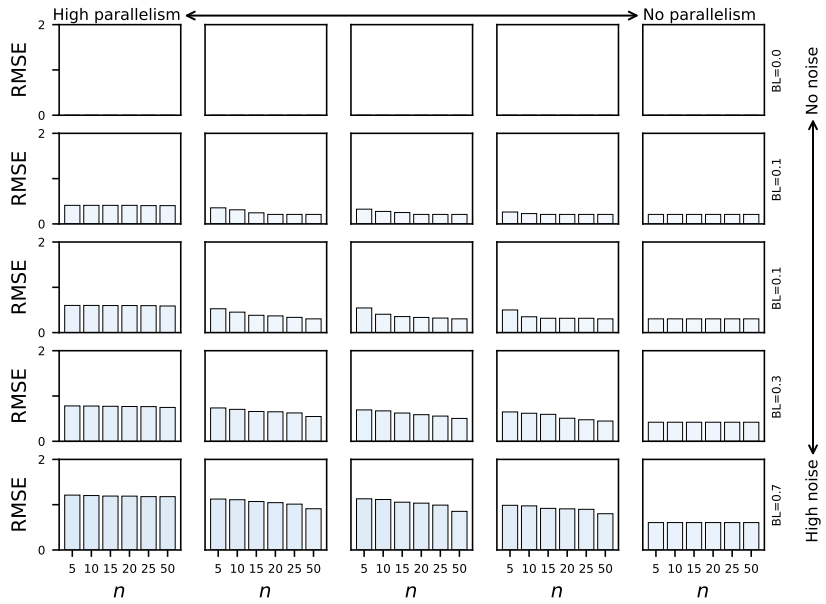
Figure 8: Percentage reduction in memory footprint w.r.t. the baseline (BL) for *a32* event logs with different skewness of decisions and noise levels with *PMc* as a heatmap. A dark color represents the worst value of the respective metric, while brighter colors encapsulate its best values. The value n on the X-axis is the maximum number of cases allowed to be retained in D_C . The number on the secondary Y-axis is the maximum states consumed by the baseline (BL).



(a) Skewness of decisions level 0

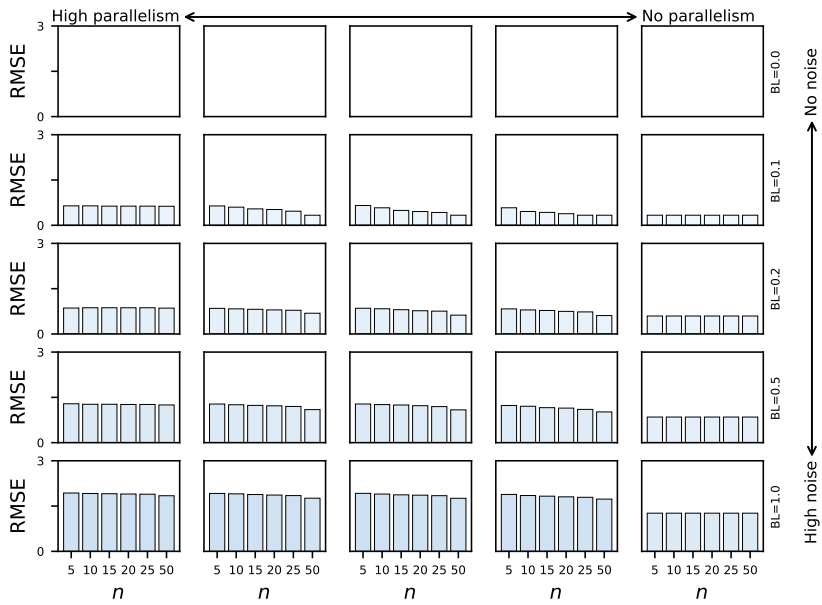


(b) Skewness of decisions level 1

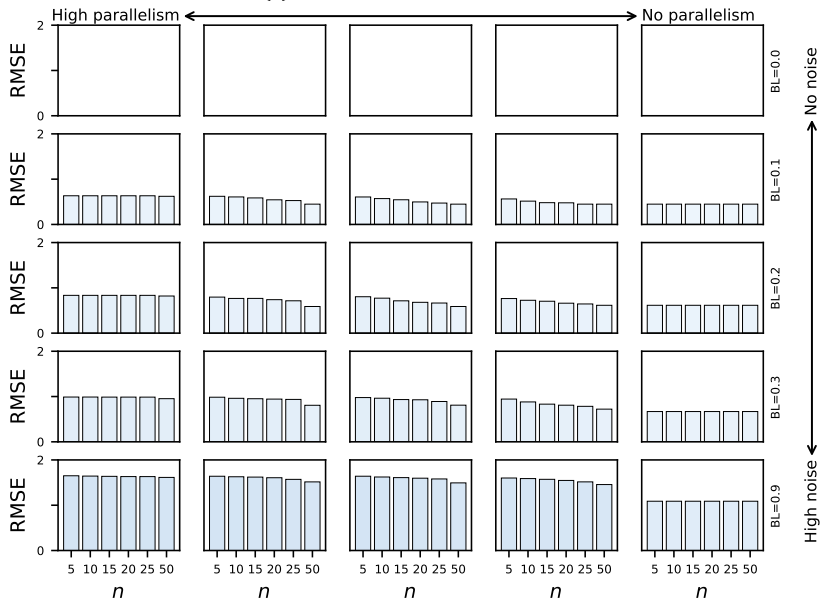


(c) Skewness of decisions level 2

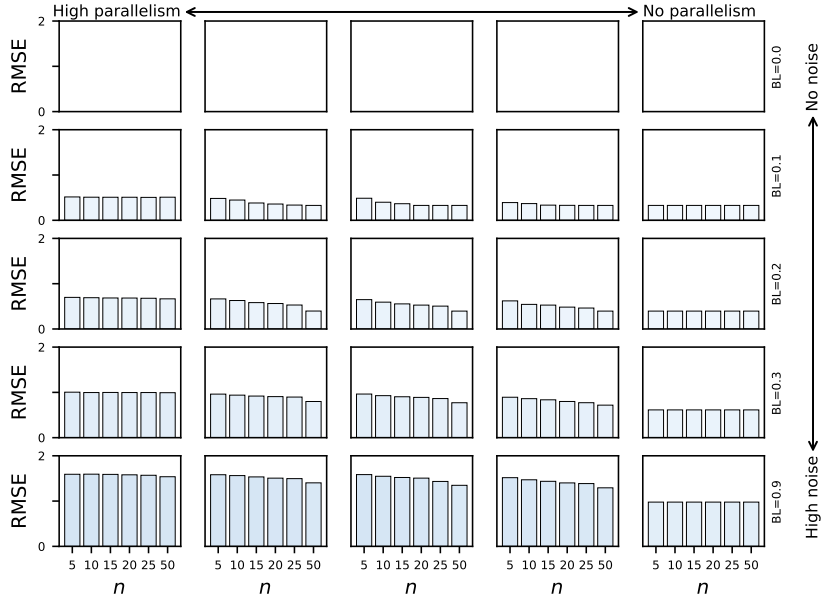
Figure 9: RMSE for a_{12} event logs with different decision skewness and noise levels with PMc as a heatmap. A dark color represents the worst value of the respective metric, while brighter colors encapsulate its best values. The number on the secondary Y-axis is the avg. trace fitness cost over the log by the baseline(BL).



(a) Skewness of decisions level 0

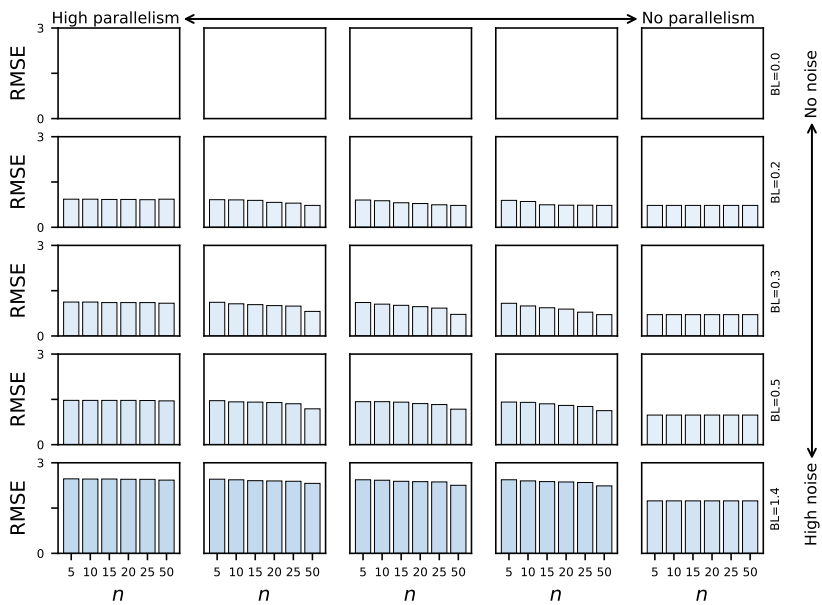


(b) Skewness of decisions level 1

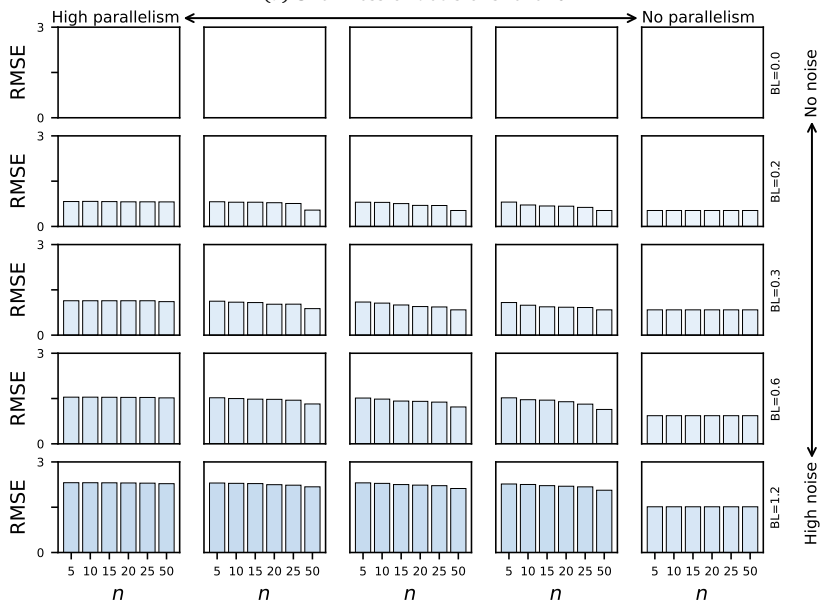


(c) Skewness of decisions level 2

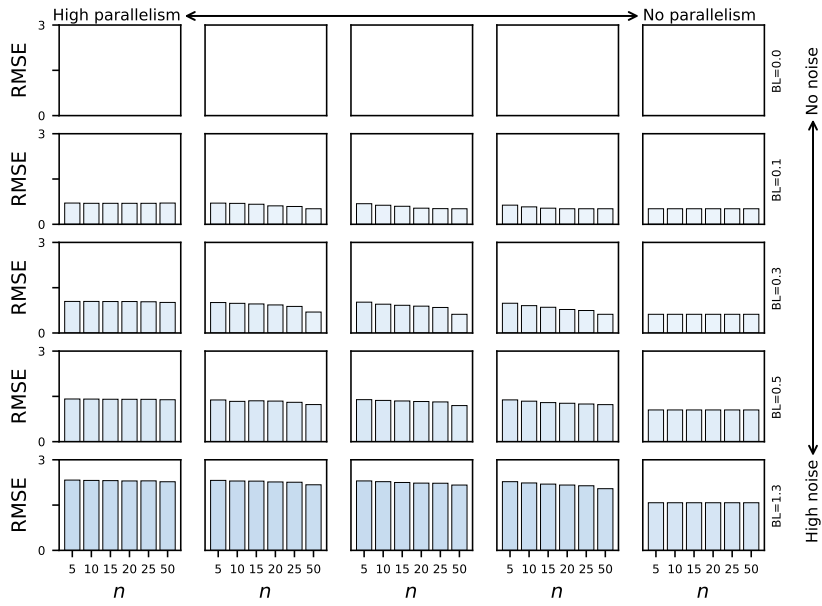
Figure 10: RMSE for *a22* event logs with different decision skewness and noise levels with *PMc* as a heatmap. A dark color represents the worst value of the respective metric, while brighter colors encapsulate its best values. The number on the secondary Y-axis is the avg. trace fitness cost over the log by the baseline (BL).



(a) Skewness of decisions level 0

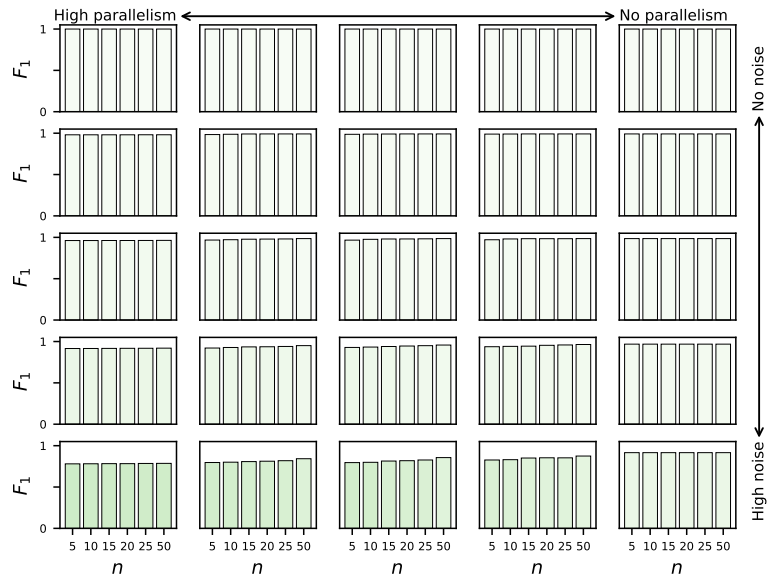


(b) Skewness of decisions level 1



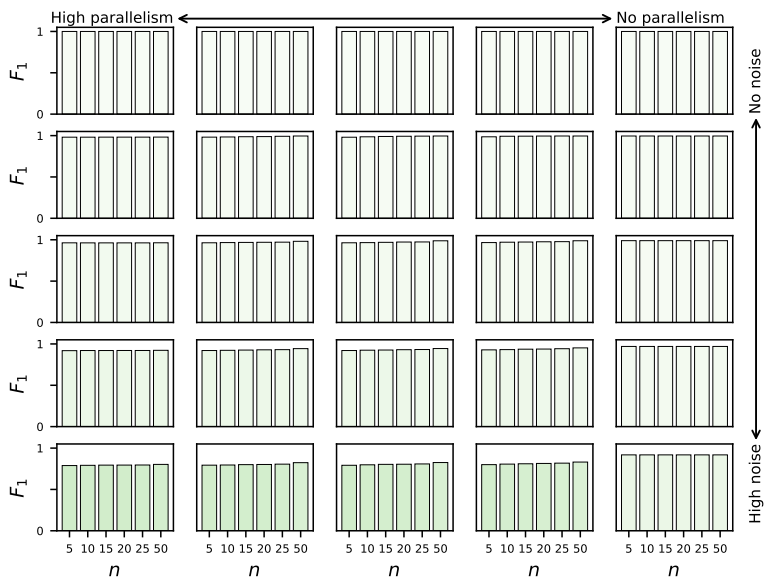
(c) Skewness of decisions level 2

Figure 11: RMSE for *a32* event logs with different decision skewness and noise levels with *PMc* as a heatmap. A dark color represents the worst value of the respective metric, while brighter colors encapsulate its best values. The number on the secondary Y-axis is the avg. trace fitness cost over the log by the baseline(BL).

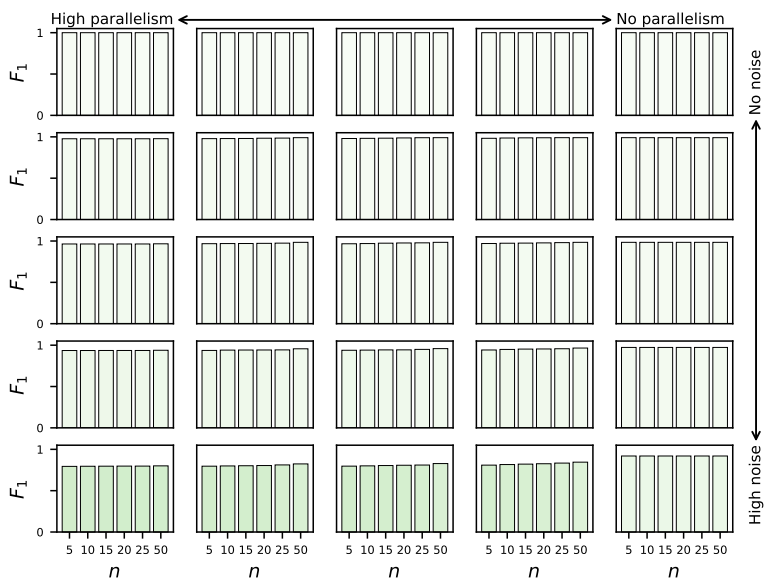


(c) Skewness of decisions level 2

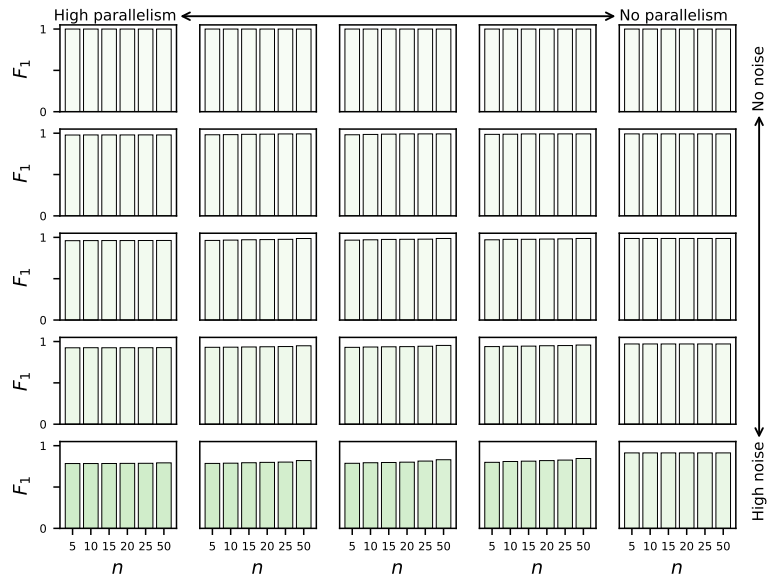
Figure 12: F_1 for *a12* event logs with different decision skewness and noise levels with *PMc* as a heatmap. A dark color represents the worst value of the respective metric, while brighter colors encapsulate its best values.



(a) Skewness of decisions level 0

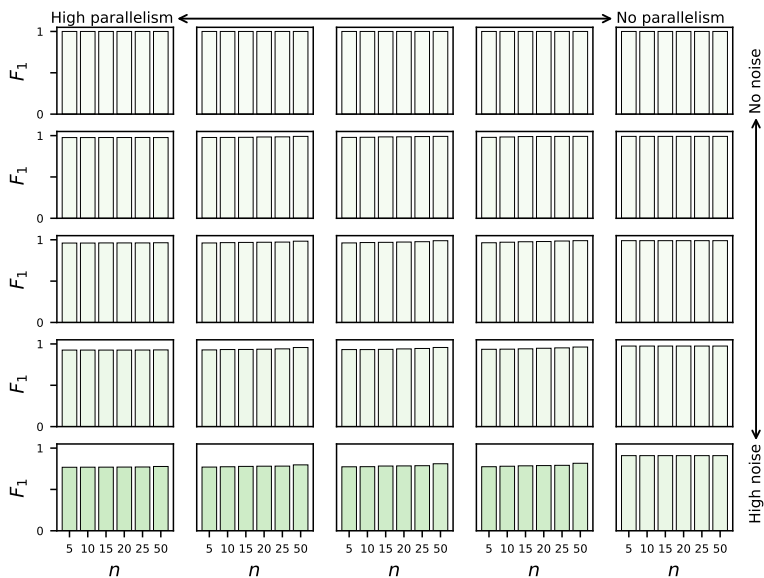


(b) Skewness of decisions level 1

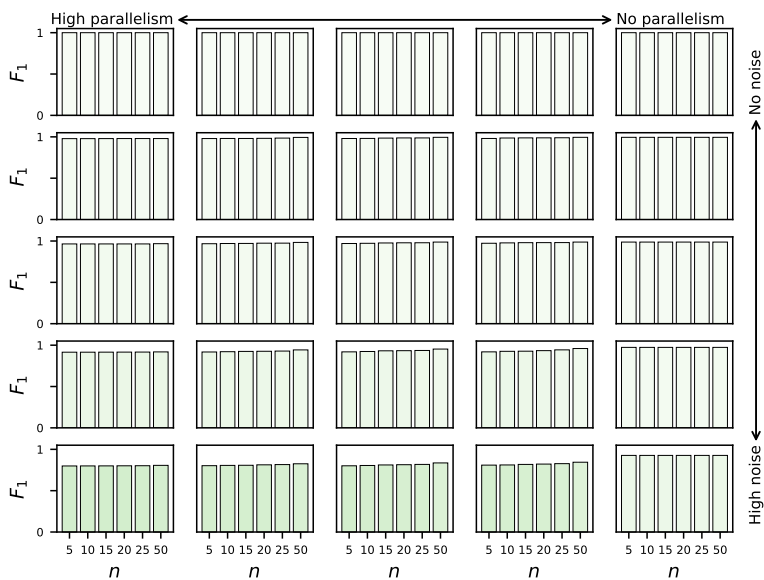


(c) Skewness of decisions level 2

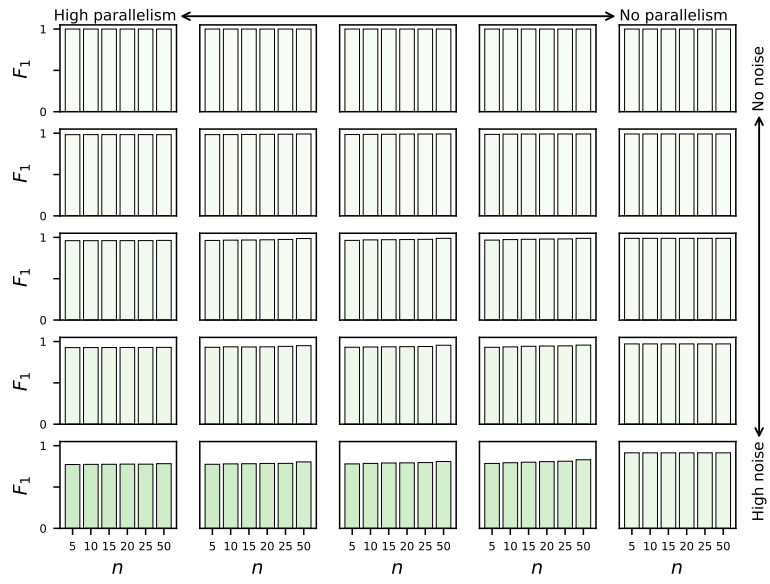
Figure 13: F_1 for *a22* event logs with different decision skewness and noise levels with *PMc* as a heatmap. A dark color represents the worst value of the respective metric, while brighter colors encapsulate its best values.



(a) Skewness of decisions level 0



(b) Skewness of decisions level 1



(c) Skewness of decisions level 2

Figure 14: F_1 for *a32* event logs with different decision skewness and noise levels with *PMc* as a heatmap. A dark color represents the worst value of the respective metric, while brighter colors encapsulate its best values.