**Problem 2 Table**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | CART Tree | KNN | SVM | NB | ID3 Tree |
| DF1 | 0.918 | 0.947 | 0.924 | 0.924 | 0.971 |
| DF1 10-Fold | 0.909 | 0.930 | 0.914 | 0.937 | 0.935 |
| DF2 | 0.978 | 0.978 | 0.978 | 1 | 0.978 |
| Df2 10-Fold | 0.960 | 0.967 | 0.973 | 0.953 | 0.927 |
| DF3 | 0.926 | 0.722 | 0.778 | 0.944 | 0.926 |
| Df3 10-Fold | 0.876 | 0.675 | 0.681 | 0.978 | 0.904 |

**Problem 4 Table**

I didn’t set the random seed for each of the algorithms, so the results here may be different compared to the Jupyter Notebook.

|  |  |  |  |
| --- | --- | --- | --- |
|  | XGBoost | CATBoost | LightGBM |
| DF1 | 0.97 | 0.97 | 0.95 |
| DF2 | 0.94 | 0.94 | 0.94 |
| DF3 | 0.96 | 0.95 | 0.96 |
| DF4 | 0.97 | 0.72 | 0.98 |
| DF5 | 0.98 | 0.98 | 0.98 |
| Execution Time | 0.46 sec | 7.82 sec | 0.54 |