

```
In [1]: import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
from sklearn.model_selection import train_test_split
from sklearn.tree import DecisionTreeClassifier
from sklearn import metrics
from sklearn.exceptions import NotFittedError
from sklearn.preprocessing import StandardScaler, LabelEncoder
from sklearn.datasets import make_classification
from sklearn.model_selection import KFold
from sklearn.model_selection import cross_val_score
from sklearn.metrics import accuracy_score
from sklearn.model_selection import StratifiedKFold
from sklearn.linear_model import LinearRegression
```

```
In [2]: Data = pd.read_csv("P2_Data.csv") # Upload the data
```

```
In [3]: Data
```

	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	...	F28	F29	F30	F31	F32	F33	F34	F35	F36	Target
0	854.04	-15267.84	193.04	12132.20	464.22	-19.81	920.42	11.84	-38.02	8.35	...	-100.43	10497.32	8	-46.22	91.89	-41.70	-849.78	-5.12	4261.68	609.09
1	1748.76	-4299.45	439.72	18046.14	540.36	-8.55	1913.78	11.28	122.02	-8.83	...	-97.41	16792.88	4	51.24	-450.34	-75.30	-1801.59	-0.16	2737.58	232.66
2	834.44	-18927.93	-85.86	18533.56	611.34	-15.88	1956.90	10.00	-24.26	-54.33	...	-135.59	-5647.94	6	40.93	-471.02	-55.50	-2529.75	8.50	3696.64	480.01
3	1429.36	3653.73	-59.69	31314.52	408.45	-9.67	1628.18	11.59	90.88	-38.87	...	-85.77	6869.46	2	-9.19	-290.45	-67.86	-2915.34	9.76	2919.54	1685.20
4	188.80	-3932.07	128.70	22837.34	530.22	-14.93	1218.16	9.55	-93.78	-61.95	...	-75.76	16974.08	2	100.86	-850.10	-64.95	-2154.12	13.42	2693.48	617.96
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1495	987.12	4369.68	-223.67	25595.70	395.58	-14.05	2503.50	13.57	10.14	-36.93	...	-95.59	9304.98	10	-7.54	-845.24	-71.10	-1960.50	9.02	3062.52	1057.77
1496	966.92	-12845.01	-735.65	25065.72	613.14	-15.62	859.76	11.04	43.12	-69.32	...	-129.22	16906.02	10	16.42	-360.75	-60.21	-753.06	-1.60	4167.22	1232.01
1497	860.70	-641.70	-393.30	31577.66	577.62	-9.49	617.64	5.80	-63.68	-89.18	...	-201.85	4687.12	10	-60.35	-477.90	-60.36	-1749.51	20.26	4466.74	2037.64
1498	428.82	-16169.43	-84.49	26820.44	555.30	-11.96	1631.22	9.80	-172.42	-27.69	...	-133.37	9937.10	8	-16.85	-458.68	-42.75	-1714.83	8.90	3599.06	-27.86
1499	753.78	10536.00	-238.10	34668.58	557.04	-17.71	2344.28	25.30	97.58	-101.30	...	-65.15	21663.04	2	0.39	-620.86	-59.76	-3509.94	15.88	4241.28	1012.31

1500 rows × 37 columns

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In [5]: df = pd.DataFrame(data = Data, columns = columns)
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In [6]: # Map strings to integers

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