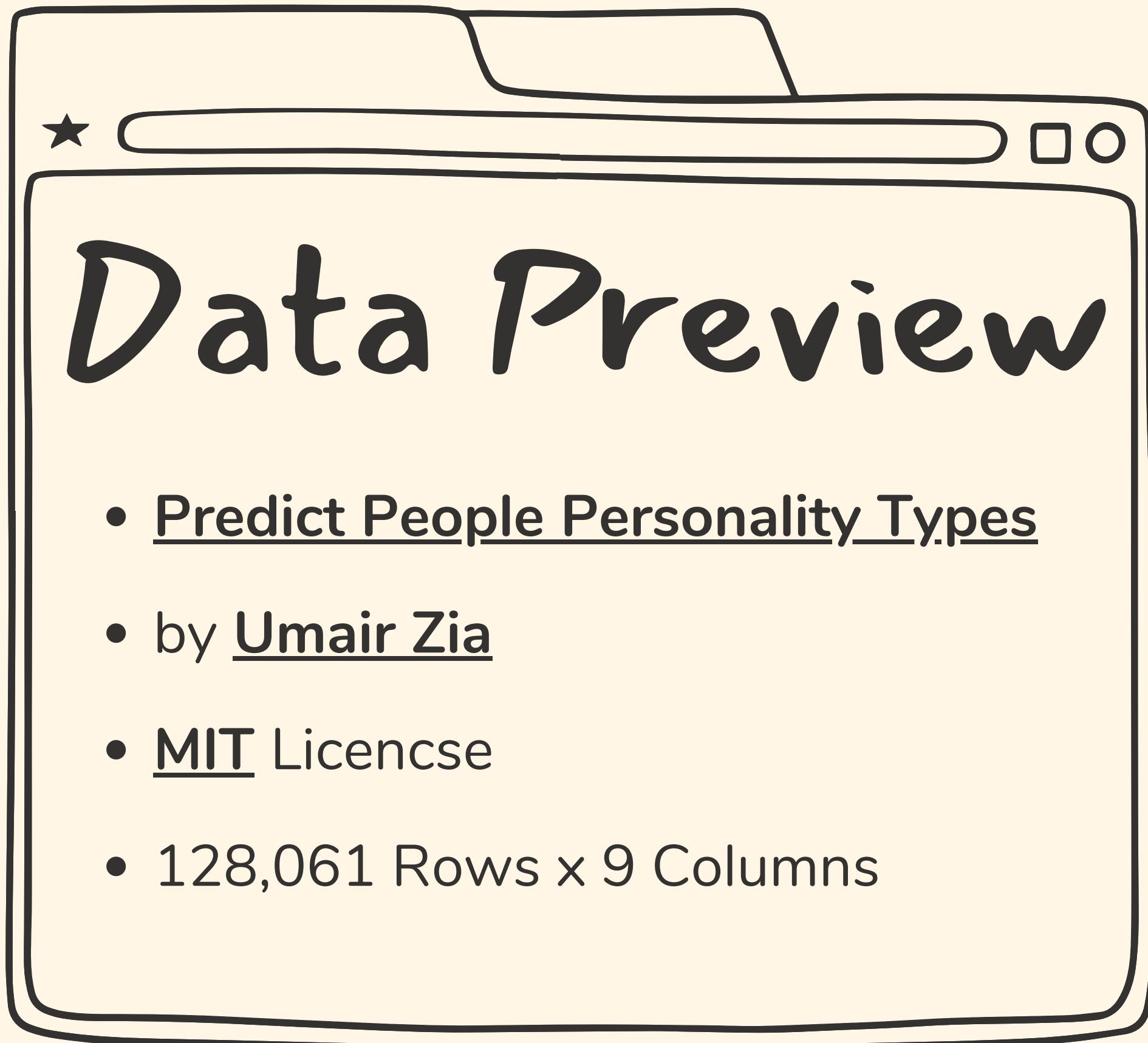


MBTI Prediction

J1. วันพุธที่ 20 พฤศจิกายน 2567 เวลา 20.15 - 21.00 น.



Predict People Personality Types
Umair Zia · Updated 2 months ago
Usability 10.0 · 4 MB

<https://www.kaggle.com/datasets/stealthtechnologies/predict-people-personality-types>

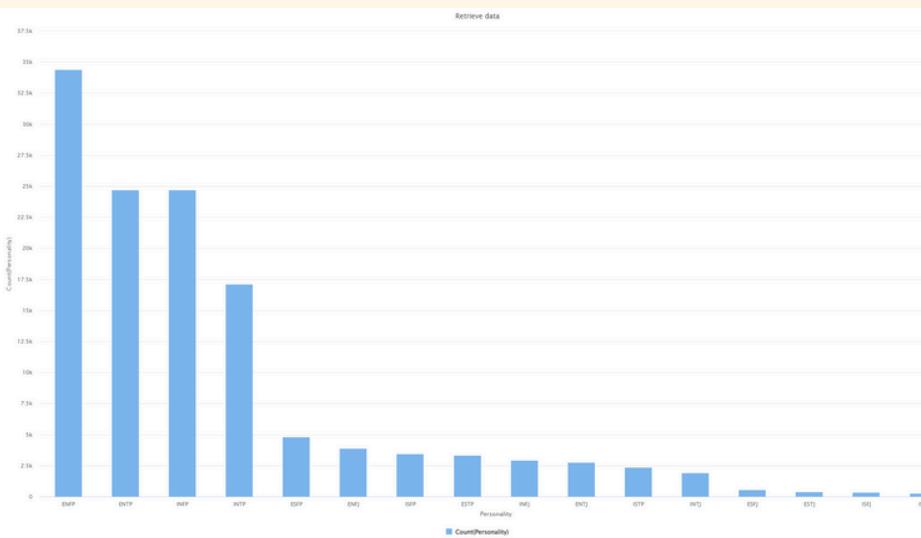


<https://www.kaggle.com/stealthtechnologies>



Personality

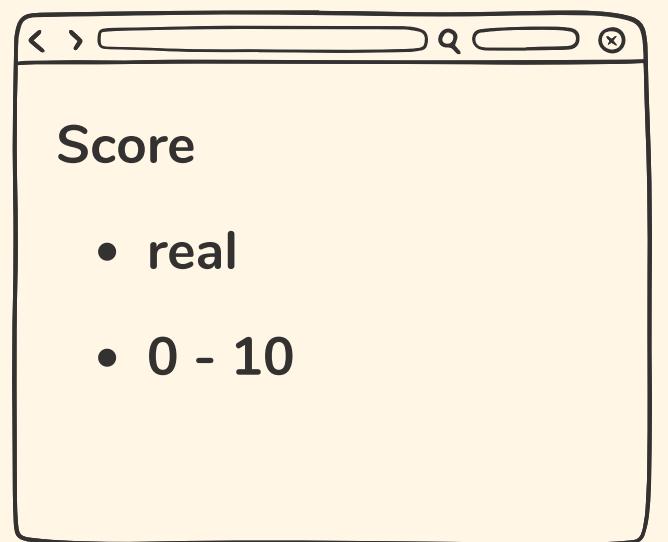
- polynominal
- 16 values
- label



128,061 Rows x 9 Columns

Index	Nominal value	Absolute count	Personality	Age	Gender	Education	Introversion ...	Sensing Sco...	Thinking Sc...	Judging Sco...	Interest
1	ENFP	34404	ENFP	19	Male	0	9.471	7.141	6.037	4.360	Unknown
2	ENTP	24718	ESFP	27	Female	0	5.854	6.160	0.806	4.221	Sports
3	INFP	24711	ENFP	21	Female	0	7.086	3.388	2.662	5.127	Unknown
4	INTP	17132	INTP	28	Male	0	2.019	4.824	7.306	5.987	Others
5	ESFP	4832	ENFP	36	Female	1	9.917	4.755	5.315	4.677	Technology
6	ENFJ	3883	ENFP	25	Male	0	7.663	5.758	1.970	4.564	Others
7	ISFP	3456	INFP	26	Female	1	2.732	5.899	3.648	5.801	Unknown
8	ESTP	3334	ENFJ	27	Female	0	5.250	5.963	1.162	5.873	Sports
9	INFJ	2919	ENTP	29	Male	0	8.860	3.682	7.785	1.641	Others
10	ENTJ	2783	INTP	24	Female	0	1.626	5.161	7.255	3.826	Technology
11	ISTP	2390	ENFP	20	Male	0	4.450	6.090	5.611	5.513	Unknown
12	INTJ	1920	ENTP	29	Female	1	7.691	4.198	9.228	6.079	Arts
13	ESFJ	554									
14	ESTJ	392									
15	ISFJ	371									
16	ISTJ	262									

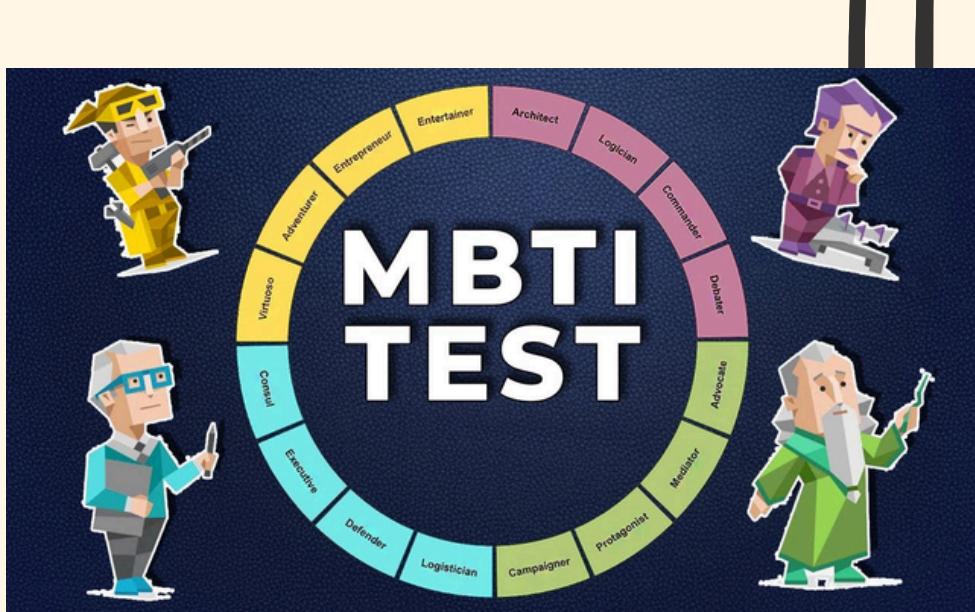
PERSONALITY TYPES KEY



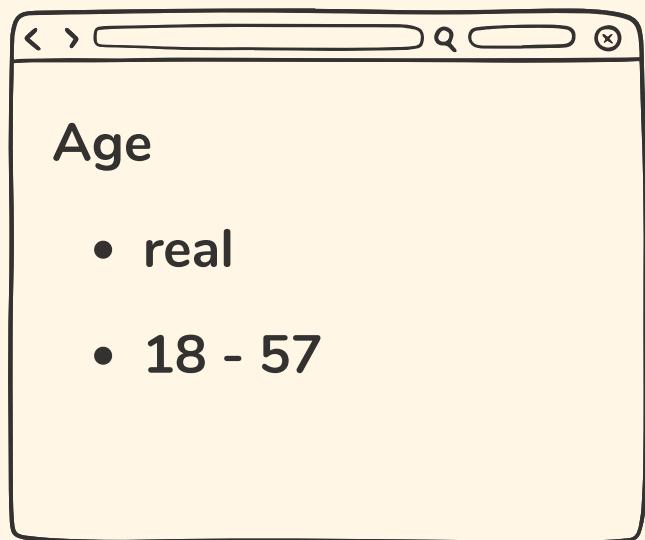
E	Extroverts are energized by people, enjoy a variety of tasks, a quick pace, and are good at multitasking.	S	Sensors are realistic people who like to focus on the facts and details, and apply common sense and past experience to come up with practical solutions to problems.
I	Introverts often like working alone or in small groups, prefer a more deliberate pace, and like to focus on one task at a time.	N	Intuitives prefer to focus on possibilities and the big picture, easily see patterns, value innovation, and seek creative solutions to problems.
T	Thinkers tend to make decisions using logical analysis, objectively weigh pros and cons, and value honesty, consistency, and fairness.	J	Judgers tend to be organized and prepared, like to make and stick to plans, and are comfortable following most rules.
F	Feelers tend to be sensitive and cooperative, and decide based on their own personal values and how others will be affected by their actions.	P	Perceivers prefer to keep their options open, like to be able to act spontaneously, and like to be flexible with making plans.

SOURCE: "Do What You Are: Discover the Perfect Career for You Through the Secrets of Personality Type" by Paul D. Tieger, Barbara Barron, Kelly Tieger | BUSINESS INSIDER

128,061 Rows x 9 Columns

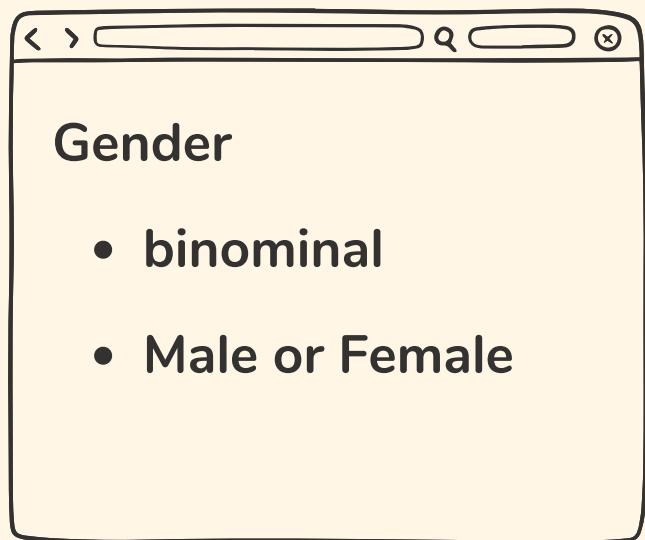


Personality	Age	Gender	Education	Introversion ...	Sensing Sco...	Thinking Sc...	Judging Sco...	Interest
ENFP	19	Male	0	9.471	7.141	6.037	4.360	Unknown
ESFP	27	Female	0	5.854	6.160	0.806	4.221	Sports
ENFP	21	Female	0	7.086	3.388	2.662	5.127	Unknown
INTP	28	Male	0	2.019	4.824	7.306	5.987	Others
ENFP	36	Female	1	9.917	4.755	5.315	4.677	Technology
ENFP	25	Male	0	7.663	5.758	1.970	4.564	Others
INFP	26	Female	1	2.732	5.899	3.648	5.801	Unknown
ENFJ	27	Female	0	5.250	5.963	1.162	5.873	Sports
ENTP	29	Male	0	8.860	3.682	7.785	1.641	Others
INTP	24	Female	0	1.626	5.161	7.255	3.826	Technology
ENFP	20	Male	0	4.450	6.090	5.611	5.513	Unknown
ENTP	29	Female	1	7.691	4.198	9.228	6.079	Arts



128,061 Rows x 9 Columns

Personality	Age	Gender	Education	Introversion ...	Sensing Sco...	Thinking Sc...	Judging Sco...	Interest
ENFP	19	Male	0	9.471	7.141	6.037	4.360	Unknown
ESFP	27	Female	0	5.854	6.160	0.806	4.221	Sports
ENFP	21	Female	0	7.086	3.388	2.662	5.127	Unknown
INTP	28	Male	0	2.019	4.824	7.306	5.987	Others
ENFP	36	Female	1	9.917	4.755	5.315	4.677	Technology
ENFP	25	Male	0	7.663	5.758	1.970	4.564	Others
INFP	26	Female	1	2.732	5.899	3.648	5.801	Unknown
ENFJ	27	Female	0	5.250	5.963	1.162	5.873	Sports
ENTP	29	Male	0	8.860	3.682	7.785	1.641	Others
INTP	24	Female	0	1.626	5.161	7.255	3.826	Technology
ENFP	20	Male	0	4.450	6.090	5.611	5.513	Unknown
ENTP	29	Female	1	7.691	4.198	9.228	6.079	Arts



128,061 Rows x 9 Columns

Personality	Age	Gender	Education	Introversion ...	Sensing Sco...	Thinking Sc...	Judging Sco...	Interest
ENFP	19	Male	0	9.471	7.141	6.037	4.360	Unknown
ESFP	27	Female	0	5.854	6.160	0.806	4.221	Sports
ENFP	21	Female	0	7.086	3.388	2.662	5.127	Unknown
INTP	28	Male	0	2.019	4.824	7.306	5.987	Others
ENFP	36	Female	1	9.917	4.755	5.315	4.677	Technology
ENFP	25	Male	0	7.663	5.758	1.970	4.564	Others
INFP	26	Female	1	2.732	5.899	3.648	5.801	Unknown
ENFJ	27	Female	0	5.250	5.963	1.162	5.873	Sports
ENTP	29	Male	0	8.860	3.682	7.785	1.641	Others
INTP	24	Female	0	1.626	5.161	7.255	3.826	Technology
ENFP	20	Male	0	4.450	6.090	5.611	5.513	Unknown
ENTP	29	Female	1	7.691	4.198	9.228	6.079	Arts



Education

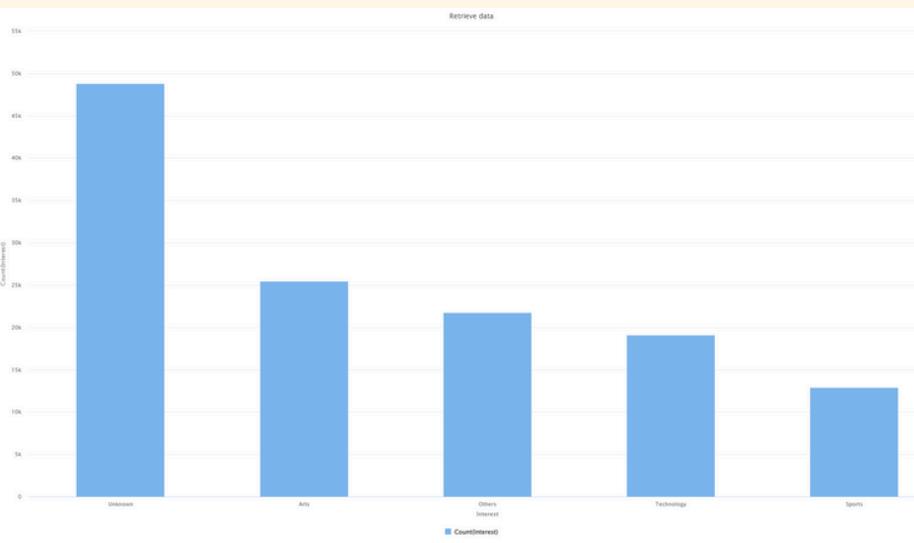
- binomial
- 1 (yes) or 0 (no)

128,061 Rows x 9 Columns

Personality	Age	Gender	Education	Introversion ...	Sensing Sco...	Thinking Sc...	Judging Sco...	Interest
ENFP	19	Male	0	9.471	7.141	6.037	4.360	Unknown
ESFP	27	Female	0	5.854	6.160	0.806	4.221	Sports
ENFP	21	Female	0	7.086	3.388	2.662	5.127	Unknown
INTP	28	Male	0	2.019	4.824	7.306	5.987	Others
ENFP	36	Female	1	9.917	4.755	5.315	4.677	Technology
ENFP	25	Male	0	7.663	5.758	1.970	4.564	Others
INFP	26	Female	1	2.732	5.899	3.648	5.801	Unknown
ENFJ	27	Female	0	5.250	5.963	1.162	5.873	Sports
ENTP	29	Male	0	8.860	3.682	7.785	1.641	Others
INTP	24	Female	0	1.626	5.161	7.255	3.826	Technology
ENFP	20	Male	0	4.450	6.090	5.611	5.513	Unknown
ENTP	29	Female	1	7.691	4.198	9.228	6.079	Arts

Interest

- polynomial
- 5 values



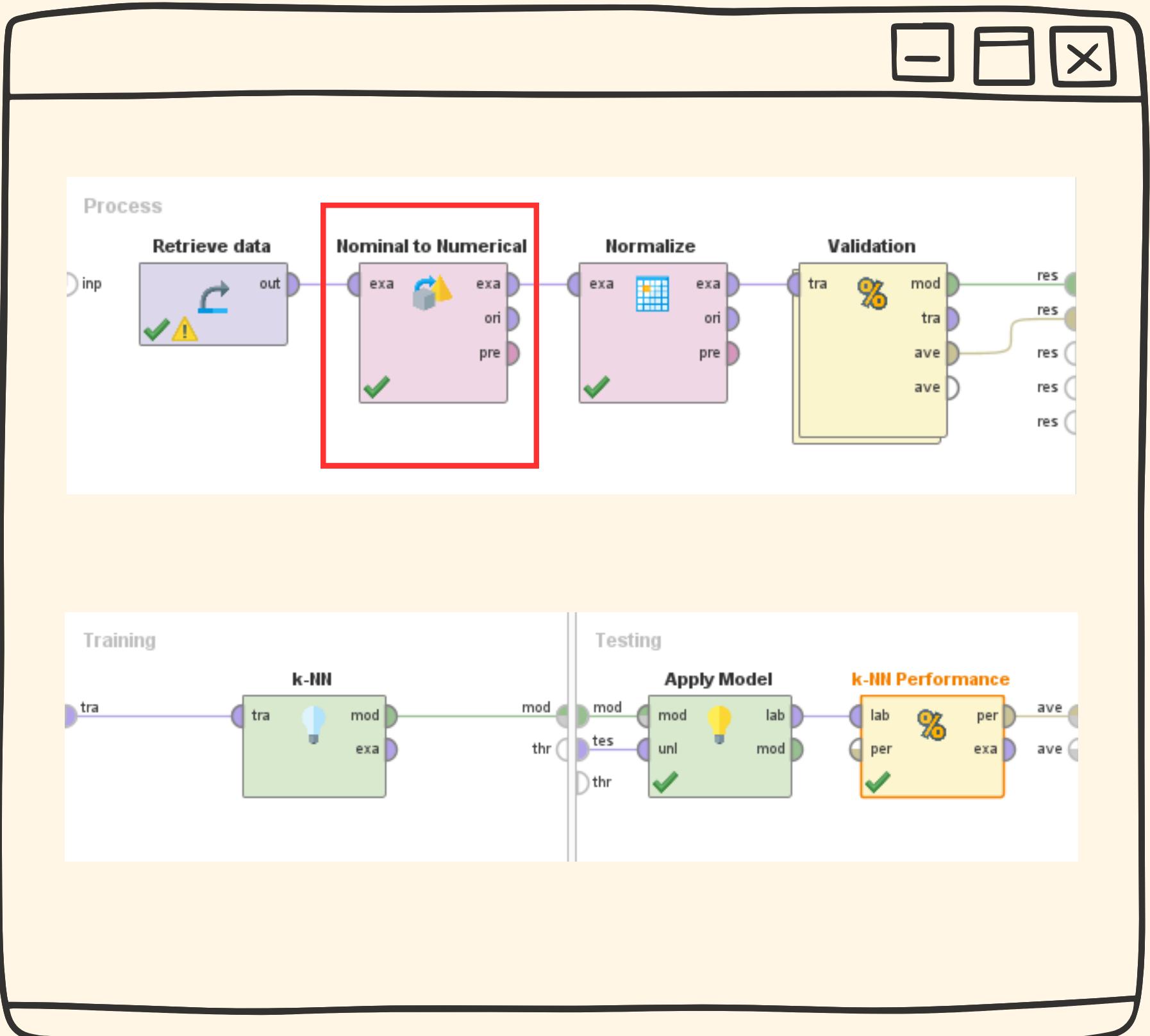
128,061 Rows x 9 Columns

Index	Nominal value	Absolute count
1	Unknown	48835
2	Arts	25489
3	Others	21733
4	Technology	19103
5	Sports	12901



Personality	Age	Gender	Education	Introversion ...	Sensing Sco...	Thinking Sc...	Judging Sco...	Interest
ENFP	19	Male	0	9.471	7.141	6.037	4.360	Unknown
ESFP	27	Female	0	5.854	6.160	0.806	4.221	Sports
ENFP	21	Female	0	7.086	3.388	2.662	5.127	Unknown
INTP	28	Male	0	2.019	4.824	7.306	5.987	Others
ENFP	36	Female	1	9.917	4.755	5.315	4.677	Technology
ENFP	25	Male	0	7.663	5.758	1.970	4.564	Others
INFP	26	Female	1	2.732	5.899	3.648	5.801	Unknown
ENFJ	27	Female	0	5.250	5.963	1.162	5.873	Sports
ENTP	29	Male	0	8.860	3.682	7.785	1.641	Others
INTP	24	Female	0	1.626	5.161	7.255	3.826	Technology
ENFP	20	Male	0	4.450	6.090	5.611	5.513	Unknown
ENTP	29	Female	1	7.691	4.198	9.228	6.079	Arts

k-NN



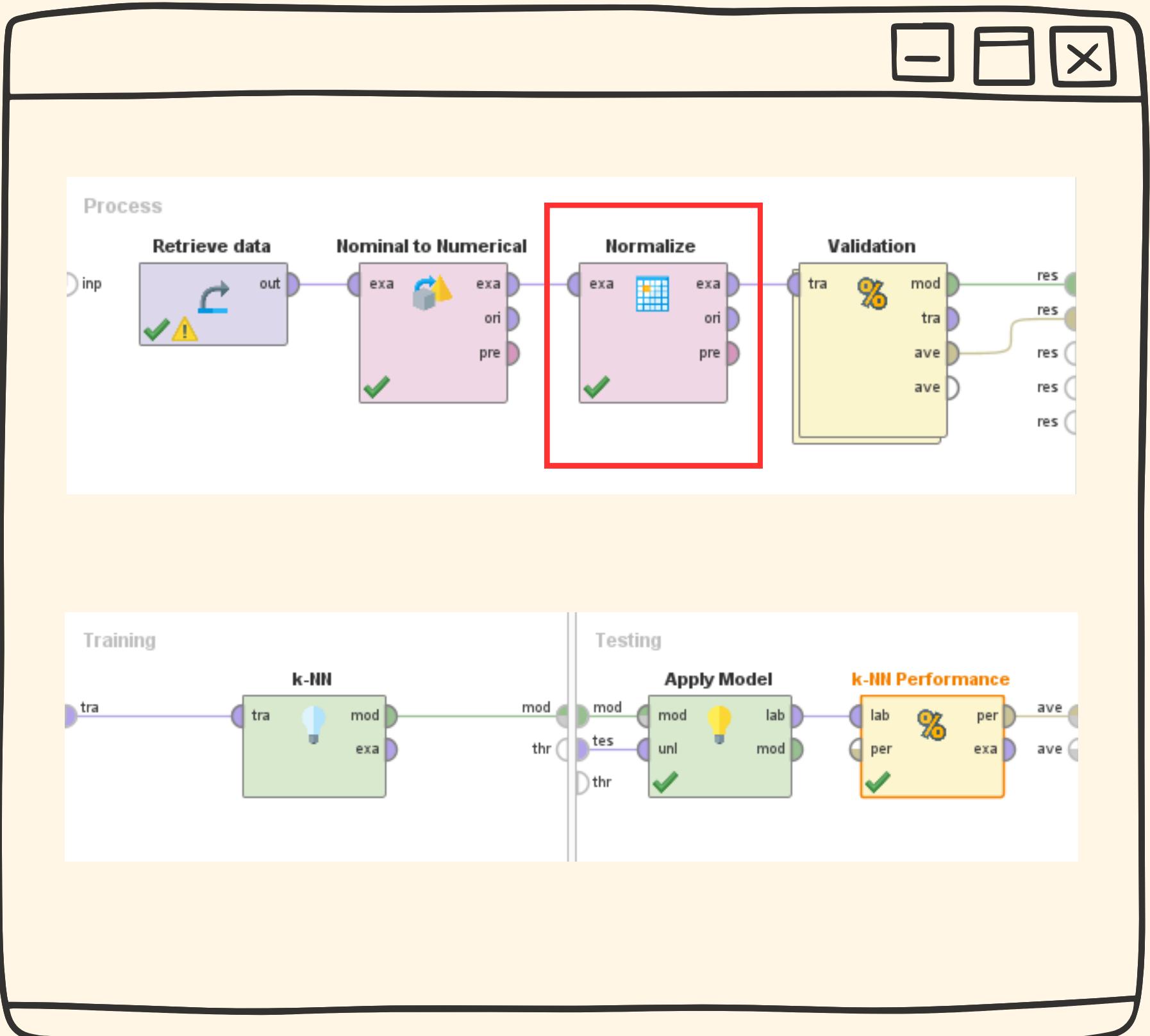
Original Data

Personality	Age	Gender	Education	Introversion ...	Sensing Sco...	Thinking Sc...	Judging Sco...	Interest
ENFP	19	Male	0	9.471	7.141	6.037	4.360	Unknown
ESFP	27	Female	0	5.854	6.160	0.806	4.221	Sports
ENFP	21	Female	0	7.086	3.388	2.662	5.127	Unknown
INTP	28	Male	0	2.019	4.824	7.306	5.987	Others
ENFP	36	Female	1	9.917	4.755	5.315	4.677	Technology
ENFP	25	Male	0	7.663	5.758	1.970	4.564	Others
INFP	26	Female	1	2.732	5.899	3.648	5.801	Unknown
ENFJ	27	Female	0	5.250	5.963	1.162	5.873	Sports
ENTP	29	Male	0	8.860	3.682	7.785	1.641	Others
INTP	24	Female	0	1.626	5.161	7.255	3.826	Technology
ENFP	20	Male	0	4.450	6.090	5.611	5.513	Unknown
ENTP	29	Female	1	7.691	4.198	9.228	6.079	Arts
ENFP	24	Male	1	6.917	4.559	0.544	6.195	Technology

Nominal to Numerical

Personality	Gender = Ma...	Gender = Fe...	Education = 0	Education = 1	Interest = U...	Interest = S...	Interest = O...	Interest = Te...	Interest = Ar...	Age	Introversion ...	Sensing Sco...	Thinking Sc...	Judging Sco...
ENFP	1	0	1	0	1	0	0	0	0	19	9.471	7.141	6.037	4.360
ESFP	0	1	1	0	0	1	0	0	0	27	5.854	6.160	0.806	4.221
ENFP	0	1	1	0	0	0	0	0	0	21	7.086	3.388	2.662	5.127
INTP	1	0	1	0	0	0	1	0	0	28	2.019	4.824	7.306	5.987
ENFP	0	1	0	1	0	0	0	1	0	36	9.917	4.755	5.315	4.677
ENFP	1	0	1	0	0	0	1	0	0	25	7.663	5.758	1.970	4.564
INFP	0	1	0	1	1	0	0	0	0	26	2.732	5.899	3.648	5.801
ENFJ	0	1	1	0	0	1	0	0	0	27	5.250	5.963	1.162	5.873
ENTP	1	0	1	0	0	0	1	0	0	29	8.860	3.682	7.785	1.641
INTP	0	1	1	0	0	0	0	1	0	24	1.626	5.161	7.255	3.826
ENFP	1	0	1	0	1	0	0	0	0	20	4.450	6.090	5.611	5.513
ENTP	0	1	0	1	0	0	0	0	1	29	7.691	4.198	9.228	6.079
ENFP	1	0	0	1	0	0	0	1	0	24	6.917	4.559	0.544	6.195
ENFP	1	0	0	1	0	0	1	0	0	21	6.986	5.514	3.997	3.810
ENFP	1	0	0	1	1	0	0	0	0	23	5.021	4.806	4.415	4.865
INFP	1	0	0	1	0	1	0	0	0	20	1.051	3.539	3.585	4.904
ESTP	0	1	1	0	1	0	0	0	0	34	2.974	6.561	8.015	5.292
ENFP	1	0	0	1	0	0	1	0	0	25	5.957	4.676	4.828	3.577
INFP	1	0	0	1	0	0	0	1	0	22	1.988	5.298	1.944	4.948
ENFP	1	0	1	0	0	0	1	0	0	22	4.814	6.219	4.975	4.521
ENTP	1	0	0	1	0	0	0	1	0	22	7.282	3.892	6.731	2.880
ENFP	1	0	0	1	0	0	1	0	0	23	5.141	5.673	1.591	5.466

k-NN



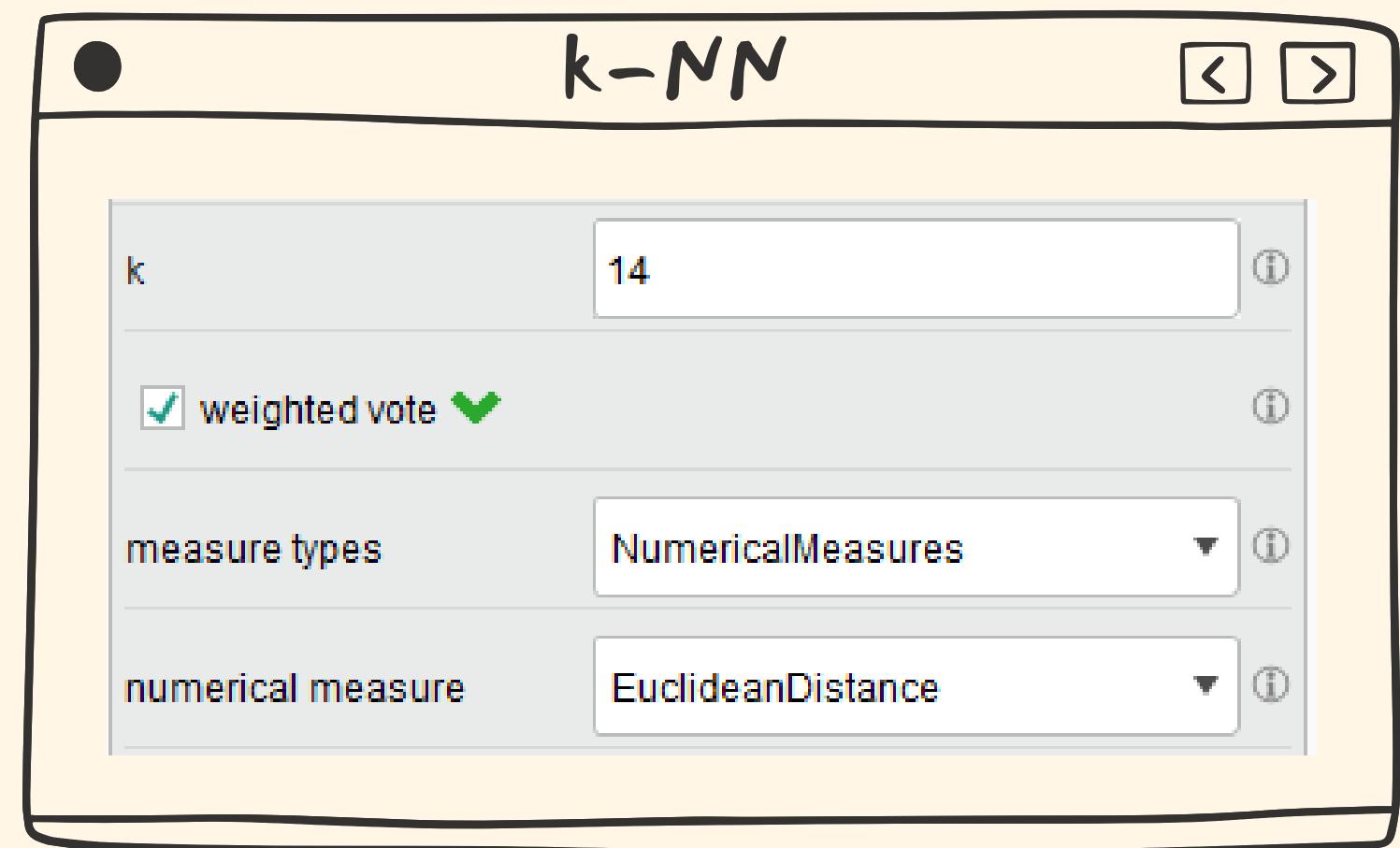
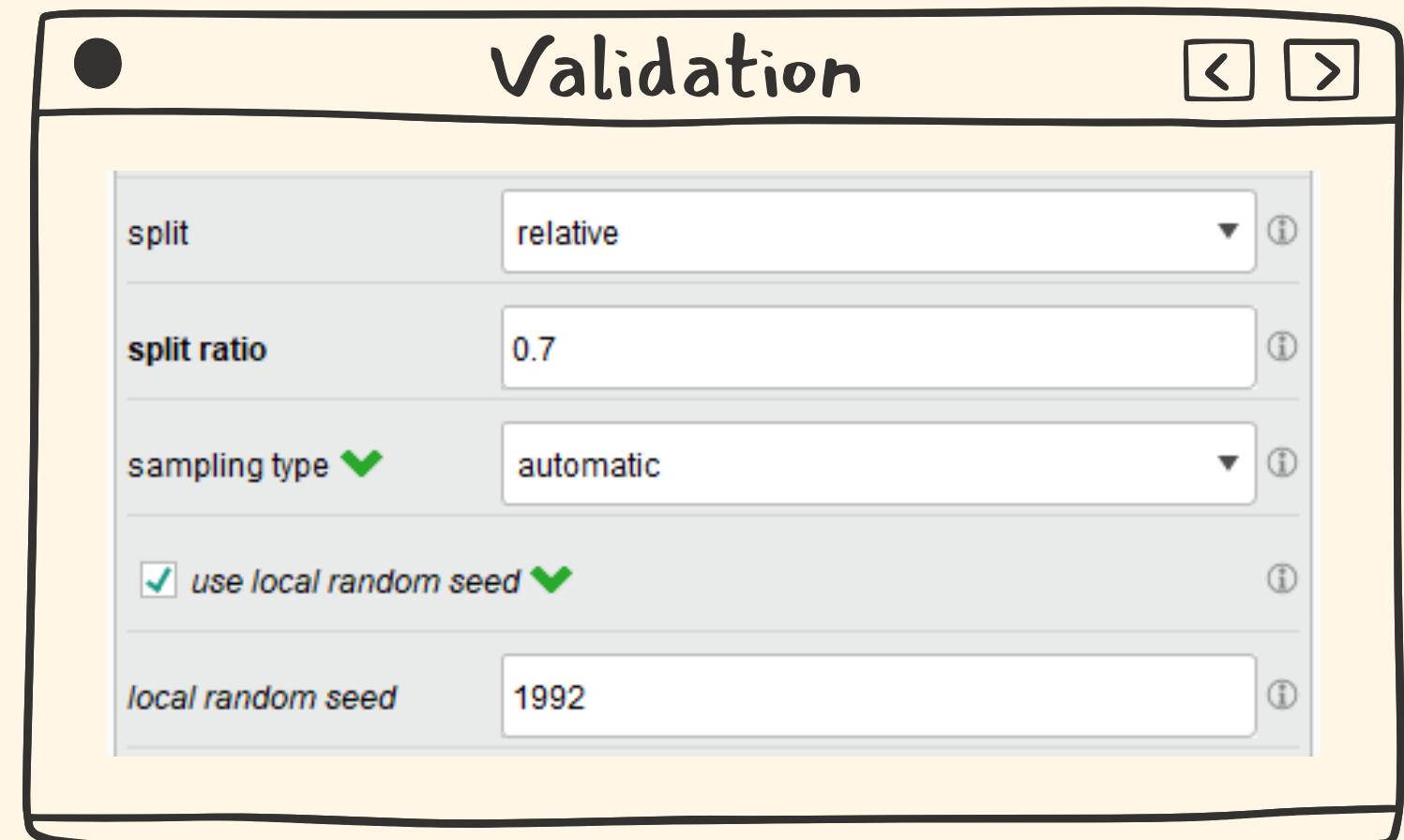
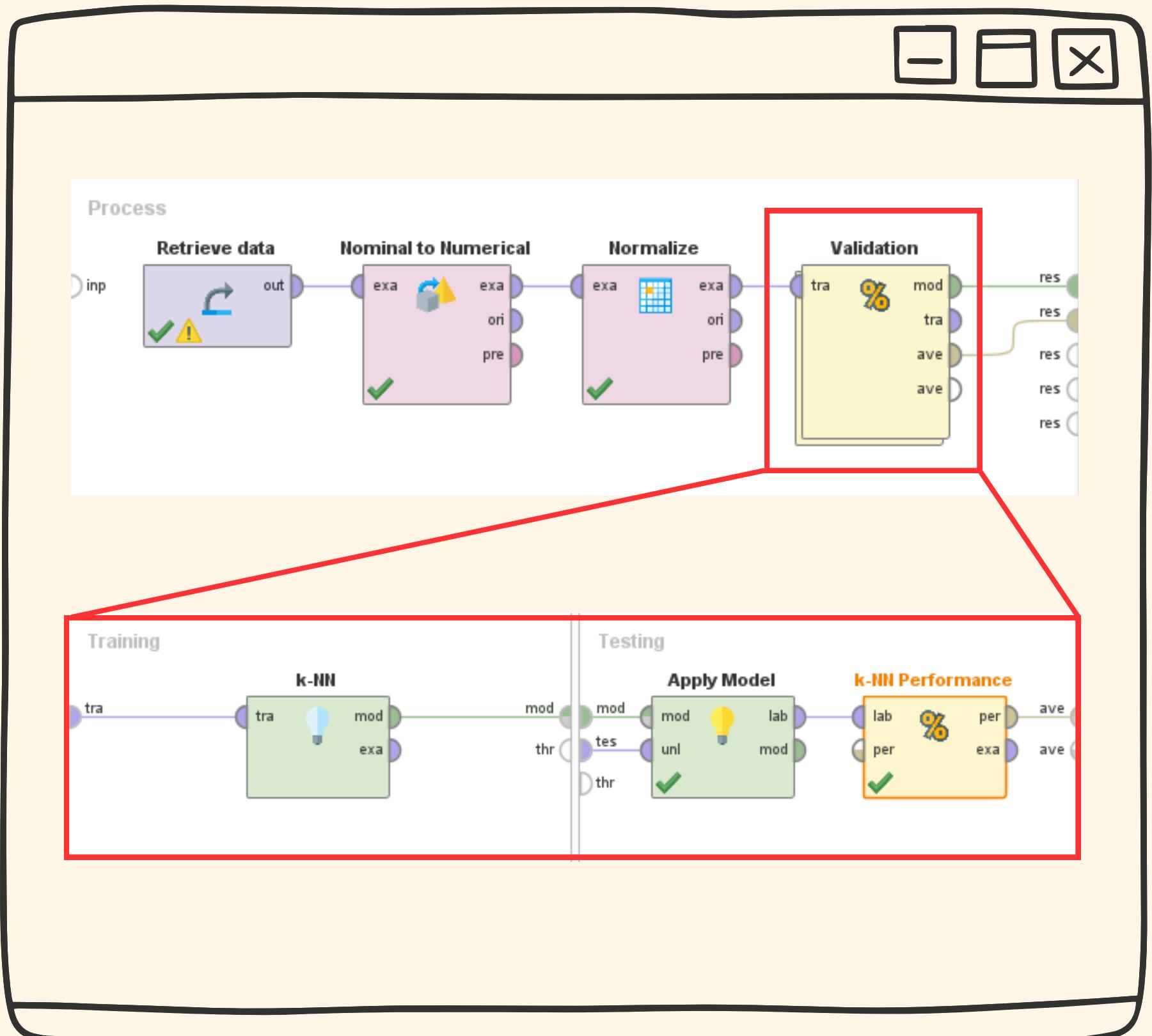
Nominal to Numerical

Personality	Gender = Ma...	Gender = Fe...	Education = 0	Education = 1	Interest = U...	Interest = S...	Interest = Ot...	Interest = Te...	Interest = Ar...	Age	Introversion ...	Sensing Sco...	Thinking Sc...	Judging Sco...
ENFP	1	0	1	0	1	0	0	0	0	19	9.471	7.141	6.037	4.360
ESFP	0	1	1	0	0	1	0	0	0	27	5.854	6.160	0.806	4.221
ENFP	0	1	1	0	1	0	0	0	0	21	7.088	3.388	2.662	5.127
INTP	1	0	1	0	0	0	1	0	0	28	2.019	4.824	7.306	5.987
ENFP	0	1	0	1	0	0	0	1	0	36	9.917	4.755	5.315	4.677
INFP	0	1	0	1	1	0	0	0	0	26	2.732	5.899	3.648	5.801
ENFJ	0	1	1	0	0	1	0	0	0	27	5.250	5.963	1.162	5.973
ENTP	1	0	1	0	0	0	1	0	0	29	8.860	3.682	7.785	1.641
INTP	0	1	1	0	0	0	0	1	0	24	1.626	5.161	7.255	3.826
ENFP	1	0	1	0	1	0	0	0	0	20	4.450	6.090	5.611	5.513
ENTP	0	1	0	1	0	0	0	0	1	29	7.691	4.198	9.228	6.079
ENFP	1	0	0	1	0	0	0	1	0	24	6.917	4.559	0.544	6.195
ENFP	1	0	0	1	1	0	0	1	0	21	6.986	5.514	3.997	3.810
INFP	1	0	0	1	0	1	0	0	0	23	5.021	4.806	4.415	4.865
ESTP	0	1	1	0	1	0	0	0	0	34	2.974	6.561	8.015	5.292
ENFP	1	0	0	1	0	0	0	1	0	25	5.957	4.676	4.828	3.577
INFP	1	0	1	0	1	0	0	0	0	22	1.988	5.298	1.944	4.948
ENFP	1	0	0	1	0	0	0	1	0	22	4.814	6.219	4.975	4.521
ENTP	1	0	1	0	0	0	0	1	0	22	7.282	3.892	6.731	2.880
ENFP	1	0	0	1	0	0	0	1	0	23	5.141	5.673	1.591	5.466

Normalize

Personality	Gender = Ma...	Gender = Fe...	Education = 0	Education = 1	Interest = U...	Interest = S...	Interest = Ot...	Interest = Te...	Interest = Ar...	Age	Introversion ...	Sensing Sco...	Thinking Sc...	Judging Sco...
ENFP	0.905	-0.905	0.836	-0.836	1.274	-0.335	-0.452	-0.419	-0.498	-1.497	1.549	1.741	0.363	-0.157
ESFP	-1.105	1.105	0.836	-0.836	-0.785	2.988	-0.452	-0.419	-0.498	0.133	0.297	0.911	-1.449	-0.256
ENFP	-1.105	1.105	0.836	-0.836	1.274	-0.335	-0.452	-0.419	-0.498	-1.090	0.723	-1.431	-0.806	0.395
INTP	0.905	-0.905	0.836	-0.836	-0.785	-0.335	2.212	-0.419	-0.498	0.336	-1.031	-0.218	0.803	1.012
ENFP	-1.105	1.105	-1.197	1.197	-0.785	-0.335	-0.452	2.388	-0.498	1.966	1.703	-0.276	0.113	0.071
ENFP	0.905	-0.905	0.836	-0.836	-0.785	-0.335	2.212	-0.419	-0.498	-0.275	0.923	0.571	-1.046	-0.010
INFP	-1.105	1.105	-1.197	1.197	1.274	-0.335	-0.452	-0.419	-0.498	-0.071	-0.784	0.690	-0.464	0.878
ENFJ	-1.105	1.105	0.836	-0.836	-0.785	2.988	-0.452	-0.419	-0.498	0.133	0.088	0.745	-1.326	0.931
ENTP	0.905	-0.905	0.836	-0.836	-0.785	-0.335	2.212	-0.419	-0.498	0.540	1.338	-1.183	0.969	-2.111
INTP	-1.105	1.105	0.836	-0.836	-0.785	-0.335	-0.452	2.388	-0.498	-0.479	-1.167	0.067	0.785	-0.541
ENFP	0.905	-0.905	0.836	-0.836	1.274	-0.335	-0.452	-0.419	-0.498	-1.294	-0.189	0.852	0.216	0.672
ENTP	-1.105	1.105	-1.197	1.197	-0.785	-0.335	-0.452	-0.419	2.006	0.540	0.933	-0.747	1.459	1.078
ENFP	0.905	-0.905	-1.197	1.197	-0.785	-0.335	-0.452	2.388	-0.498	-0.479	0.665	-0.442	-1.540	1.162
ENFP	0.905	-0.905	-1.197	1.197	-0.785	-0.335	2.212	-0.419	-0.498	-1.090	0.689	0.365	-0.343	-0.552
ENFP	0.905	-0.905	-1.197	1.197	1.274	-0.335	-0.452	-0.419	-0.498	-0.682	0.009	-0.233	-0.199	0.206
INFP	0.905	-0.905	-1.197	1.197	-0.785	2.988	-0.452	-0.419	-0.498	-1.294	-1.366	-1.304	-0.486	0.234
ESTP	-1.105	1.105	0.836	-0.836	1.274	-0.335	-0.452	-0.419	-0.498	1.559	-0.700	1.250	1.049	0.513
ENFP	0.905	-0.905	-1.197	1.197	-0.785	-0.335	-0.452	2.388	-0.498	-0.275	0.332	-0.343	-0.056	-0.720
INFP	0.905	-0.905	0.836	-0.836	1.274	-0.335	-0.452	-0.419	-0.498	-0.886	-1.041	0.182	-1.055	0.265
ENFP	0.905	-0.905	0.836	-0.836	-0.785	-0.335	2.212	-0.419	-0.498	-0.886	-0.063	0.961	-0.005	-0.041
ENTP	0.905	-0.905	0.836	-0.836	-0.785	-0.335	2.212	-0.419	-0.498	0.791	-1.006	0.604	-1.220	
ENFP	0.905	-0.905	-1.197	1.197	-0.785	-0.335	2.212	-0.419	-0.498	-0.682	0.050	0.499	-1.177	0.638

k-NN



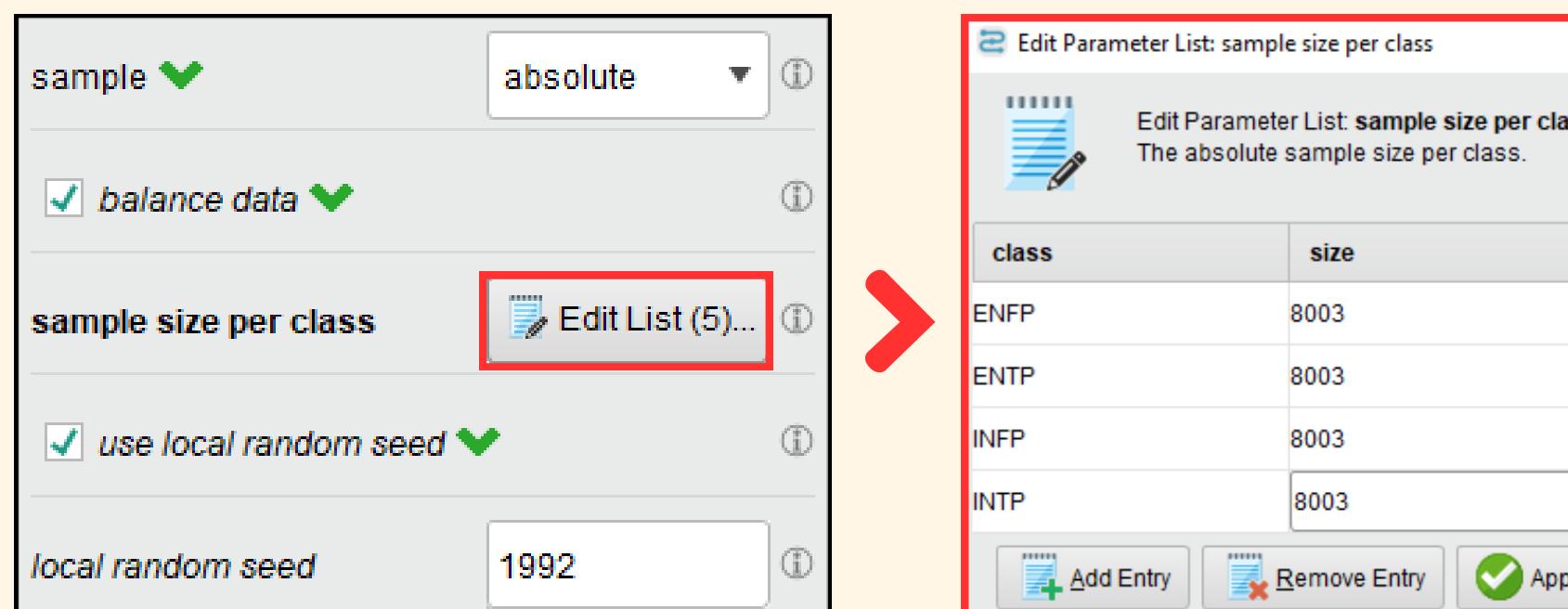
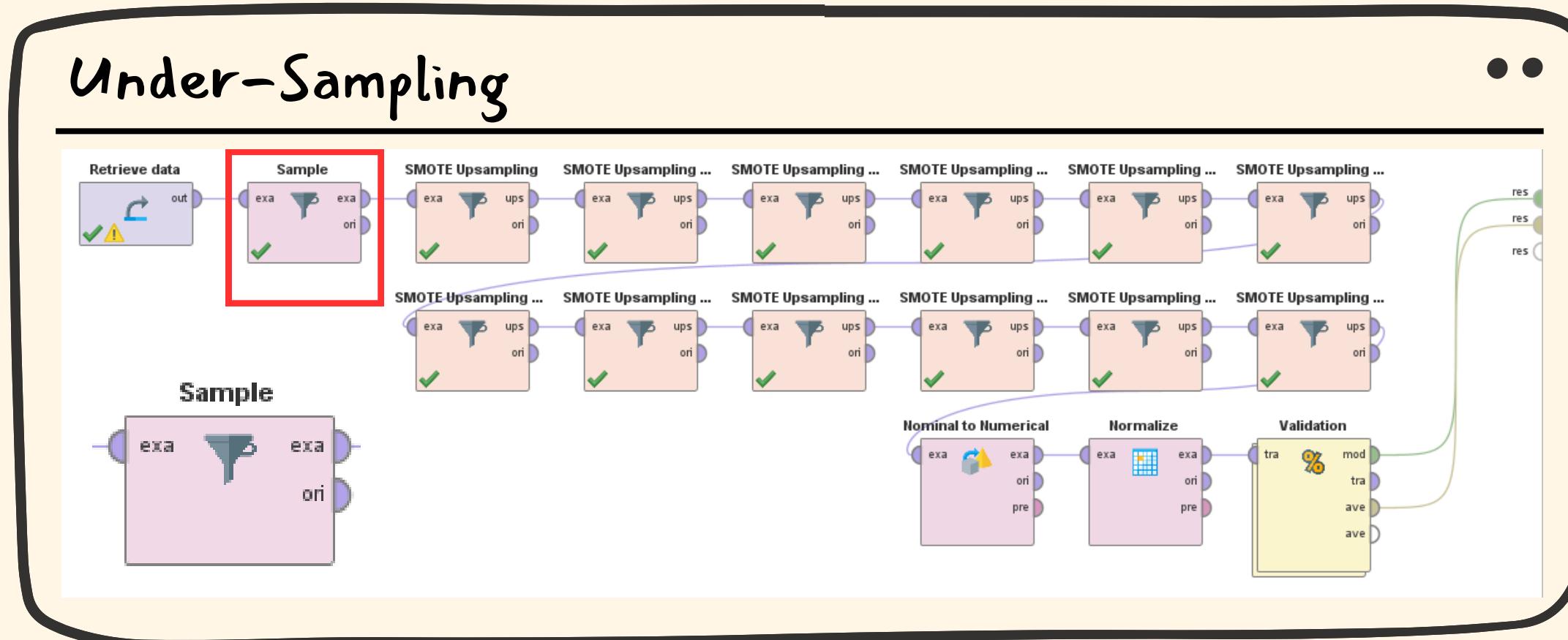
k-NN

k=14

Accuracy: 82.40%

	true ENFP	true ESFP	true INTP	true INFP	true ENFJ	true ENTP	true ESTP	true ISTP	true INTJ	true INFJ	true ISFP	true ENTJ	true ESFJ	true ISFJ	true ISTJ	true ESTJ	class pre...
pred. EN...	9300	427	22	639	231	281	11	0	0	15	33	5	9	1	0	1	84.74%
pred. ES...	81	865	1	7	1	3	29	1	0	1	62	0	26	1	1	0	80.17%
pred. INTP	16	1	4421	166	0	518	20	250	110	6	7	15	0	0	7	1	79.83%
pred. INFP	658	37	160	6488	17	17	0	12	5	112	341	0	1	7	0	0	82.60%
pred. EN...	31	4	0	2	803	0	0	0	1	68	0	26	48	8	0	0	81.03%
pred. EN...	221	11	443	18	6	6504	357	25	17	0	0	160	1	0	2	8	83.67%
pred. ES...	4	34	6	1	0	62	529	33	1	0	1	2	1	0	2	22	75.79%
pred. ISTP	0	2	51	0	0	8	49	386	1	0	16	0	0	0	17	1	72.69%
pred. INTJ	0	0	27	1	1	3	0	0	384	21	0	43	0	2	19	0	76.65%
pred. INFJ	2	0	2	22	65	0	0	0	16	644	0	1	1	31	1	0	82.04%
pred. ISFP	8	66	0	69	1	1	1	9	0	4	575	0	3	15	0	0	76.46%
pred. EN...	0	0	7	0	26	17	2	0	31	1	0	580	1	0	1	33	82.98%
pred. ESFJ	0	3	0	0	14	0	0	0	0	0	0	0	68	7	0	0	73.91%
pred. ISFJ	0	0	0	0	0	0	0	0	0	4	2	0	2	38	2	0	79.17%
pred. ISTJ	0	0	0	0	0	1	1	1	8	0	0	1	0	1	23	1	62.16%
pred. ESTJ	0	0	0	0	0	0	1	0	2	0	0	2	5	0	4	51	78.46%
class rec...	90.11%	59.66%	86.01%	87.52%	68.93%	87.71%	52.90%	53.84%	66.67%	73.52%	55.45%	69.46%	40.96%	34.23%	29.11%	43.22%	

k-NN with balanced data

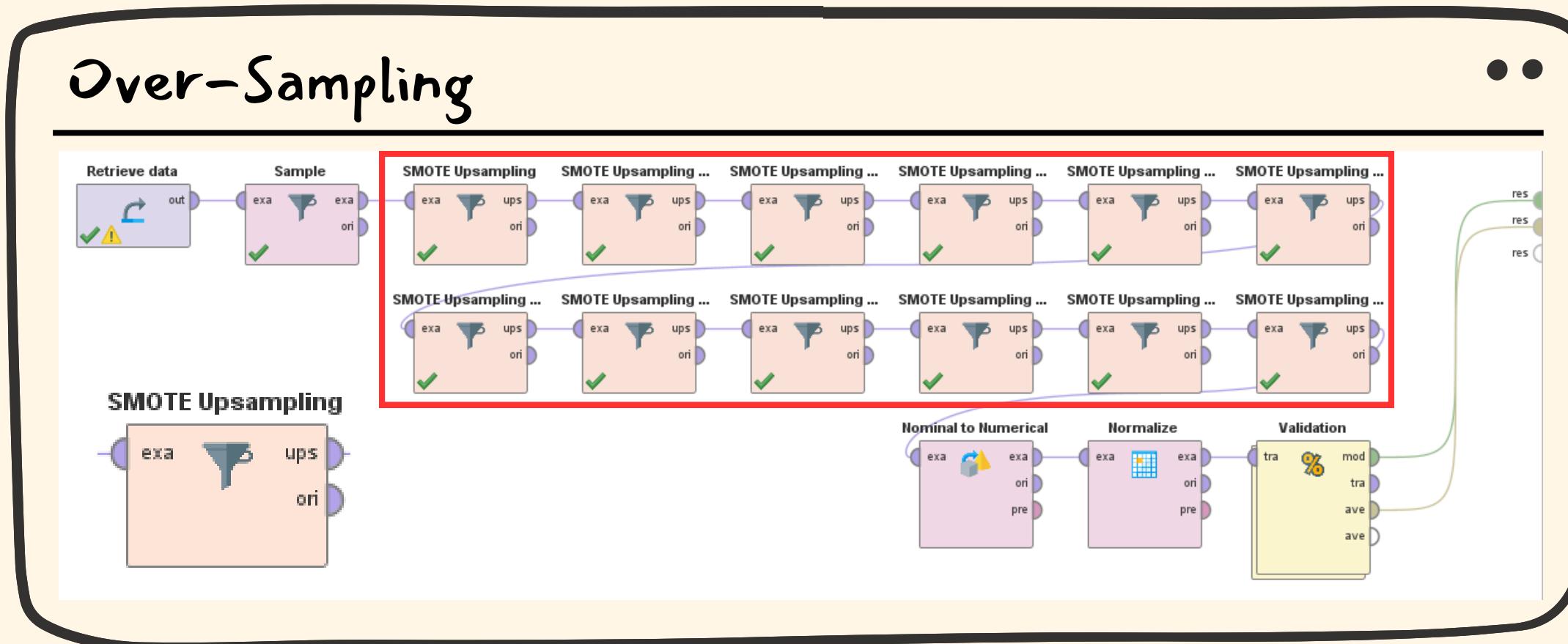


Index	Nominal value	Absolute count
1	ENFP	34404
2	ENTP	24718
3	INFP	24711
4	INTP	17132
5	ESFP	4832
6	ENFJ	3883
7	ISFP	3456
8	ESTP	3334
9	INFJ	2919
10	ENTJ	2783
11	ISTP	2390
12	INTJ	1920
13	ESFJ	554
14	ESTJ	392
15	ISFJ	371
16	ISTJ	262

✓ 128,061 / 16 ≈ 8,003

Index	Nominal value	Absolute count
1	ENFP	8003
2	ENTP	8003
3	INFP	8003
4	INTP	8003
5	ESFP	4832
6	ENFJ	3883
7	ISFP	3456
8	ESTP	3334
9	INFJ	2919
10	ENTJ	2783
11	ISTP	2390
12	INTJ	1920
13	ESFJ	554
14	ESTJ	392
15	ISFJ	371
16	ISTJ	262

k -NN with balanced data



number of neighbours	16
<input checked="" type="checkbox"/> normalize	
<input checked="" type="checkbox"/> equalize classes	
<input checked="" type="checkbox"/> auto detect minority class	
<input checked="" type="checkbox"/> round integers	
nominal change rate	0.5
<input checked="" type="checkbox"/> append to original	
<input checked="" type="checkbox"/> use local random seed	
local random seed	1992

Index	Nominal value	Absolute count
1	ENFP	8003
2	ENTP	8003
3	INFP	8003
4	INTP	8003
5	ESFP	4832
6	ENFJ	3883
7	ISFP	3456
8	ESTP	3334
9	INFJ	2919
10	ENTJ	2783
11	ISTP	2390
12	INTJ	1920
13	ESFJ	554
14	ESTJ	392
15	ISFJ	371
16	ISTJ	262

✓ 128,061 / 16 ≈ 8,003

Index	Nominal value	Absolute count
1	ENFJ	8003
2	ENFP	8003
3	ENTJ	8003
4	INTP	8003
5	ESFJ	8003
6	ESFP	8003
7	ESTJ	8003
8	ESTP	8003
9	INFJ	8003
10	INFP	8003
11	INTJ	8003
12	INTP	8003
13	ISFJ	8003
14	ISFP	8003
15	ISTJ	8003
16	ISTP	8003

k-NN with SMOTE

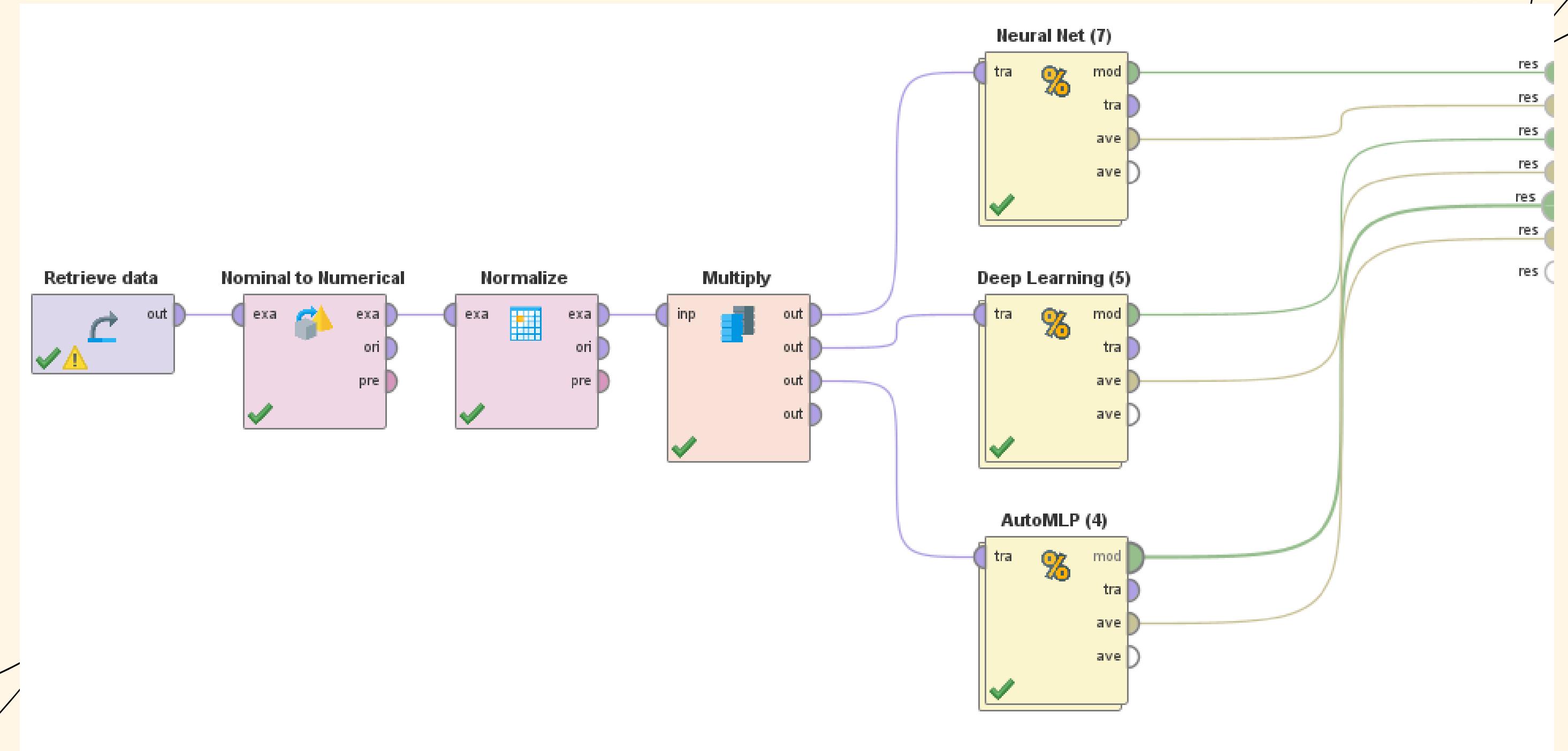
k=14

Accuracy: 85.23% from 82.40%

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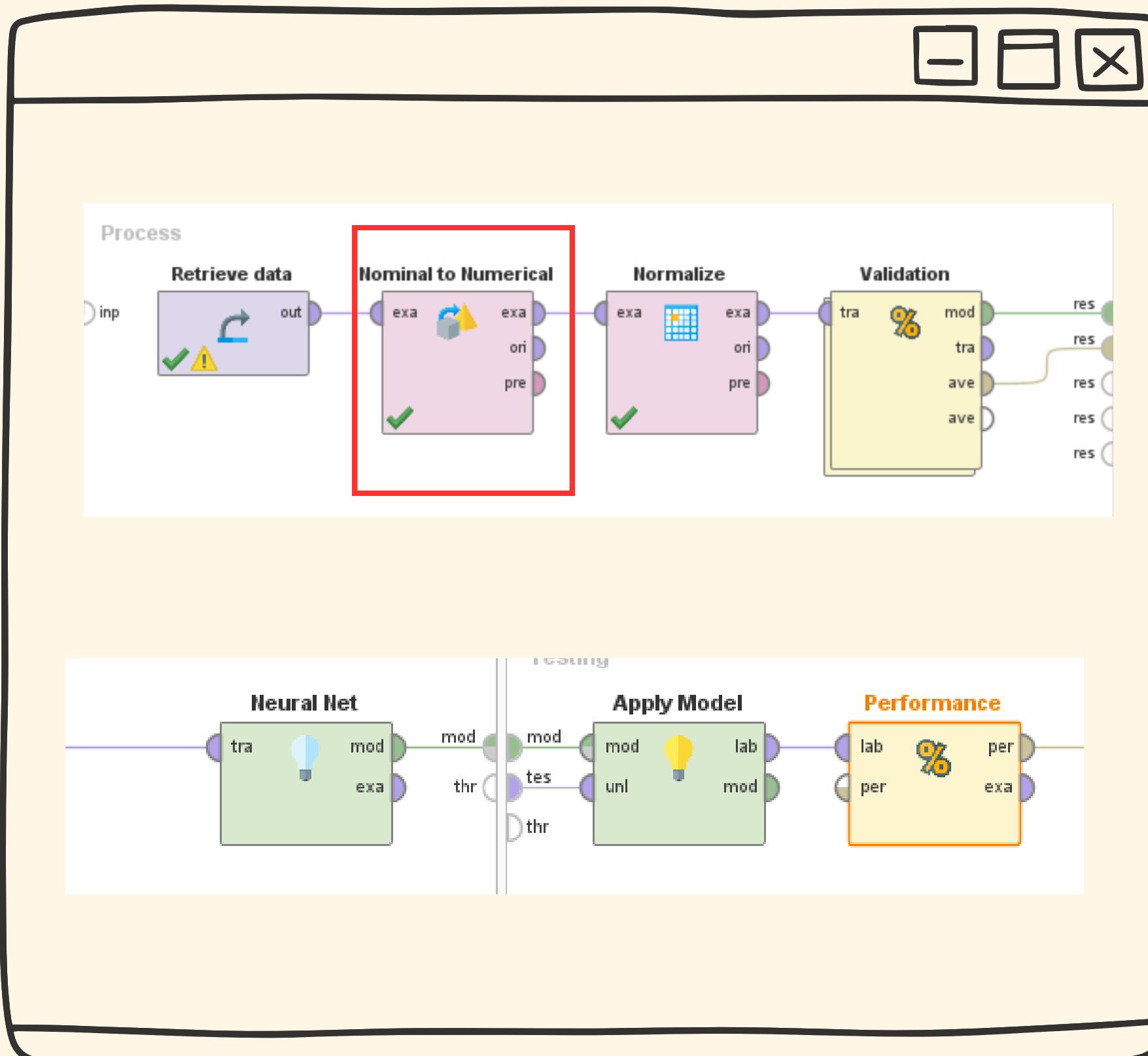
	true ESFP	true INTP	true ENFP	true INFP	true ENFJ	true ENTP	true ESTP	true ISTP	true INTJ	true INFJ	true ISFP	true ENTJ	true ESFJ	true ISFJ	true ISTJ	true ESTJ	class pre...
pred. ES...	1963	0	289	27	1	13	39	2	0	0	96	0	2	0	0	0	80.72%
pred. INTP	0	1757	9	105	0	213	4	15	3	0	0	0	0	0	0	0	83.43%
pred. EN...	27	4	1583	140	0	50	1	0	0	0	1	0	0	0	0	0	87.65%
pred. INFP	2	39	189	1634	0	2	0	1	0	2	21	0	0	0	0	0	86.46%
pred. EN...	6	1	148	20	1999	4	0	0	3	119	0	18	5	0	0	0	86.05%
pred. EN...	1	125	95	4	0	1643	20	2	0	0	0	1	0	0	0	0	86.89%
pred. ES...	84	16	16	1	0	264	2120	69	1	0	4	0	0	0	0	1	82.30%
pred. ISTP	9	260	4	11	0	30	138	2234	0	0	67	0	0	0	3	0	81.06%
pred. INTJ	0	154	0	7	10	11	0	3	2200	42	1	135	0	0	5	0	85.67%
pred. INFJ	0	5	12	171	124	0	0	0	25	2083	3	1	0	8	0	0	85.65%
pred. ISFP	200	7	25	266	0	0	1	21	0	2	2134	0	0	5	0	0	80.20%
pred. EN...	1	22	7	0	54	158	5	0	66	7	0	2107	0	0	0	7	86.57%
pred. ESFJ	92	0	19	1	181	0	0	0	0	12	5	1	2299	57	0	10	85.88%
pred. ISFJ	11	0	2	14	17	0	2	1	0	128	69	0	81	2320	12	0	87.32%
pred. ISTJ	0	11	0	0	0	1	4	50	97	6	0	22	1	11	2346	62	89.85%
pred. ESTJ	5	0	3	0	15	12	67	3	6	0	0	116	13	0	35	2321	89.41%
class rec...	81.76%	73.18%	65.93%	68.05%	83.26%	68.43%	88.30%	93.04%	91.63%	86.76%	88.88%	87.76%	95.75%	96.63%	97.71%	96.67%	

Neural Network



Neural Network

Original Data



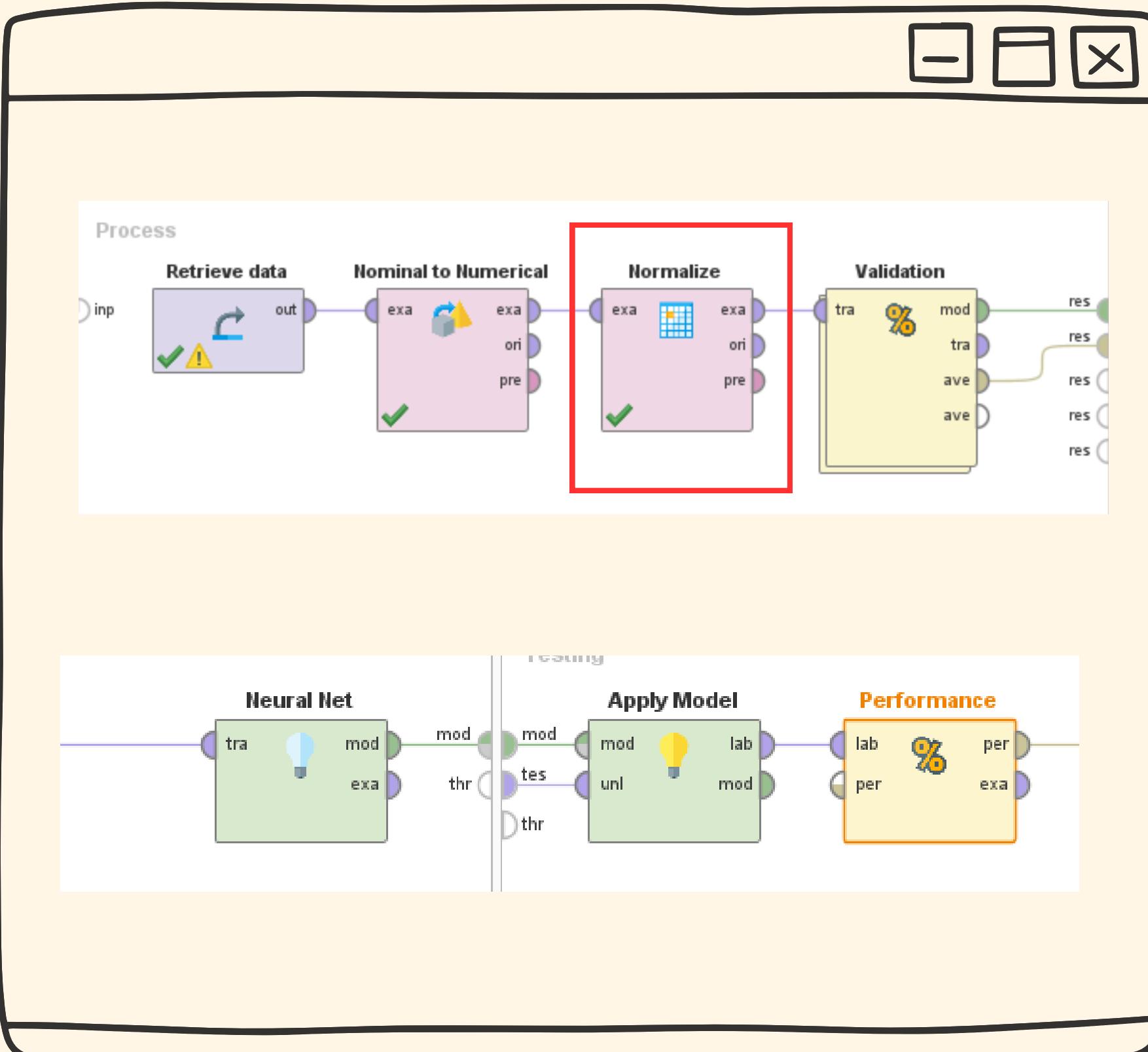
Personality	Age	Gender	Education	Introversion ...	Sensing Sco...	Thinking Sc...	Judging Sco...	Interest
ENFP	19	Male	0	9.471	7.141	6.037	4.360	Unknown
ESFP	27	Female	0	5.854	6.160	0.806	4.221	Sports
ENFP	21	Female	0	7.086	3.388	2.662	5.127	Unknown
INTP	28	Male	0	2.019	4.824	7.306	5.987	Others
ENFP	36	Female	1	9.917	4.755	5.315	4.677	Technology
ENFP	25	Male	0	7.663	5.758	1.970	4.564	Others
INFP	26	Female	1	2.732	5.899	3.648	5.801	Unknown
ENFJ	27	Female	0	5.250	5.963	1.162	5.873	Sports
ENTP	29	Male	0	8.860	3.682	7.785	1.641	Others



Nominal to Numerical

Personality	Gender = Ma...	Gender = Fe...	Interest = U...	Interest = S...	Interest = Ot...
ENFP	1	0	1	0	0
ESFP	0	1	0	1	0
ENFP	0	1	1	0	0
INTP	1	0	0	0	1
ENFP	0	1	0	0	0
ENFP	1	0	0	0	1
INFP	0	1	1	0	0
ENFJ	0	1	0	1	0
ENTP	1	0	0	0	1

Neural Network



Nominal to Numerical

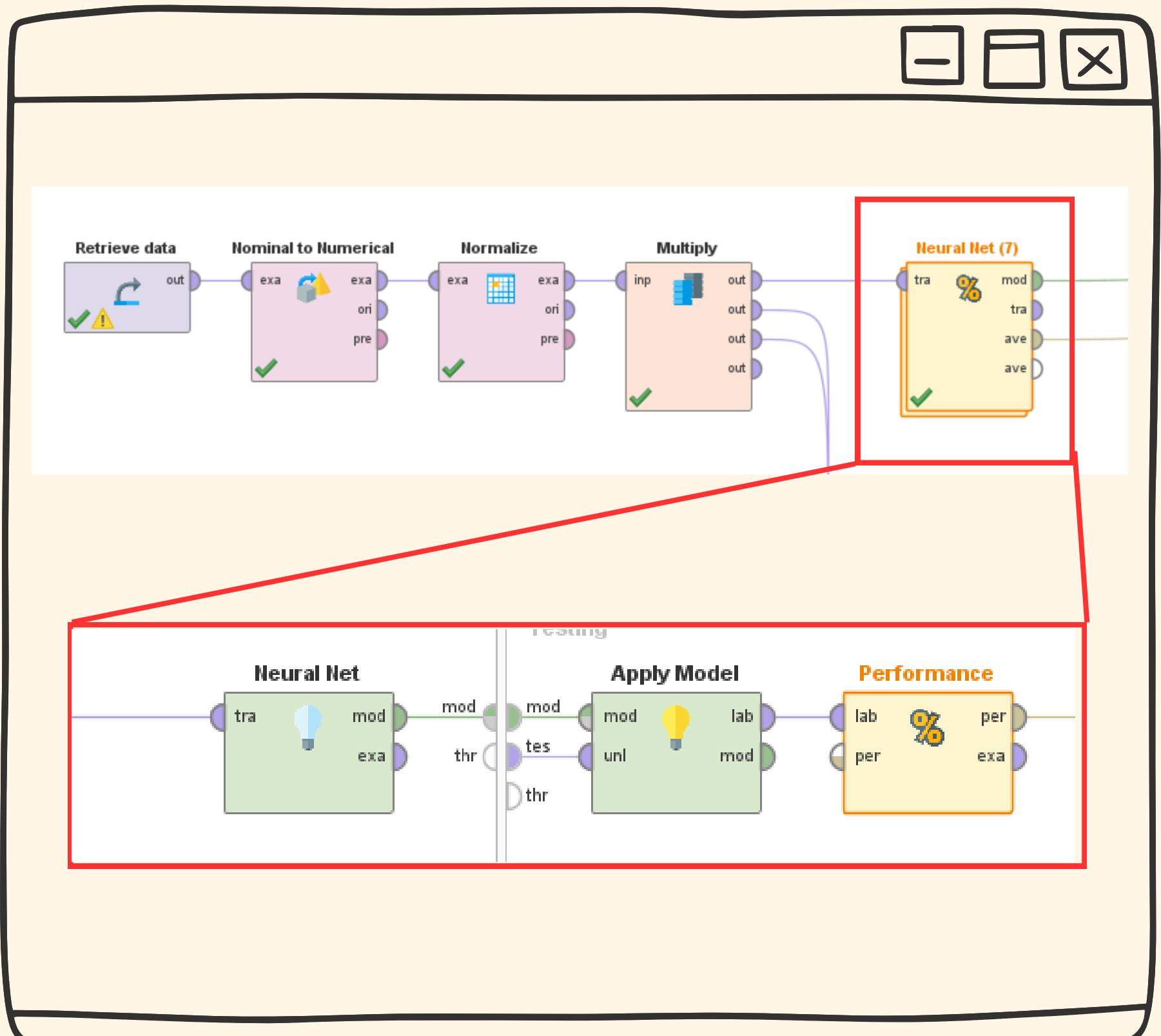
Personality	Gender = Ma...	Gender = Fe...	Interest = U...	Interest = S...	Interest = Ot...
ENFP	1	0	1	0	0
ESFP	0	1	0	1	0
ENFP	0	1	1	0	0
INTP	1	0	0	0	1
ENFP	0	1	0	0	0
ENFP	1	0	0	0	1
INFP	0	1	1	0	0
ENFJ	0	1	0	1	0
ENTP	1	0	0	0	1



Normalize

Interest = Te...	Interest = Ar...	Age	Education	Introversion ...	Sensing Sco...	Thinking Sc...	Judging Sco...
0	0	0.026	0	0.947	0.730	0.604	0.443
0	0	0.231	0	0.585	0.629	0.081	0.429
0	0	0.077	0	0.709	0.346	0.266	0.521
0	0	0.256	0	0.202	0.493	0.731	0.608
1	0	0.462	1	0.992	0.486	0.531	0.475
0	0	0.179	0	0.766	0.588	0.197	0.464
0	0	0.205	1	0.273	0.603	0.365	0.589
0	0	0.231	0	0.525	0.609	0.116	0.597
0	0	0.282	0	0.886	0.376	0.779	0.167
1	0	0.154	0	0.163	0.527	0.725	0.389
0	0	0.051	0	0.445	0.622	0.561	0.560
0	1	0.282	1	0.769	0.429	0.923	0.618

Neural Net



hidden layer sizes
10

training cycles 200
learning rate 0.01
momentum 0.9
error epsilon 1.0E-4

use local random seed
local random seed 1992

Neural Network

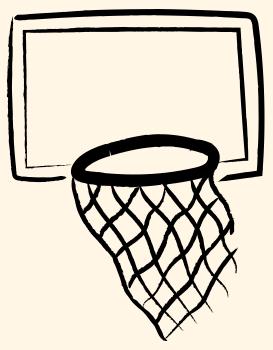


Accuracy : 89.71%

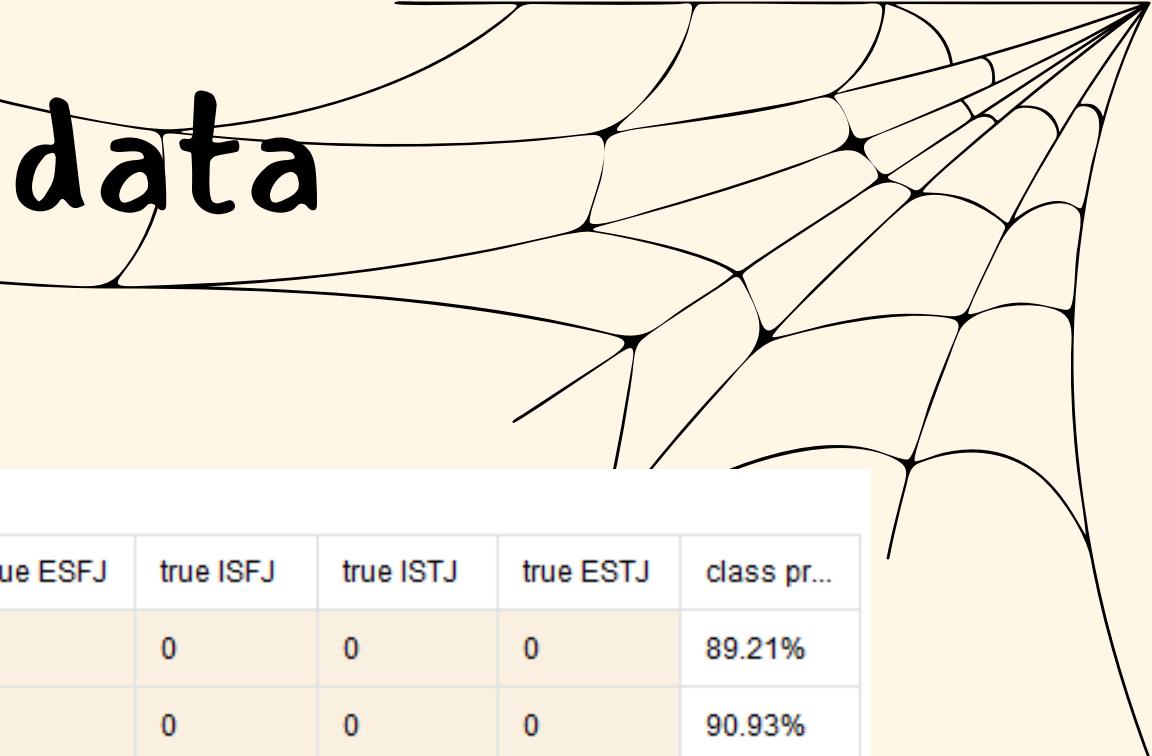


accuracy: 89.71%

	true ENFP	true ESFP	true INTP	true INFP	true ENFJ	true ENTP	true ESTP	true ISTP	true INTJ	true INFJ	true ISFP	true ENTJ	true ESFJ	true ISFJ	true ISTJ	true ESTJ	class pr...
pred. EN...	9455	184	1	512	11	12	0	0	0	0	13	0	0	0	0	0	92.81%
pred. ES...	135	1136	0	8	0	0	5	0	0	0	48	0	1	0	0	0	85.22%
pred. INTP	4	0	4516	9	0	375	6	107	1	0	0	0	0	0	0	0	90.00%
pred. INFP	695	15	8	6793	1	1	0	0	0	3	144	0	0	0	0	0	88.68%
pred. EN...	5	0	0	0	1087	0	0	0	0	118	0	2	23	2	0	0	87.87%
pred. EN...	14	0	541	0	0	6932	127	2	1	0	0	14	0	0	0	1	90.83%
pred. ES...	0	0	10	0	0	88	785	52	0	0	0	0	0	0	0	0	83.96%
pred. ISTP	0	0	55	0	0	4	75	554	0	0	4	0	0	0	0	0	80.06%
pred. INTJ	0	0	7	0	0	0	0	0	509	5	0	37	0	0	10	1	89.46%
pred. INFJ	1	0	0	11	51	0	0	0	0	733	0	0	0	11	0	0	90.83%
pred. ISFP	11	113	0	80	0	0	0	1	0	1	828	0	0	0	0	0	80.08%
pred. EN...	1	0	2	0	3	3	0	0	56	1	0	763	0	0	1	12	90.62%
pred. ES...	0	1	0	0	11	0	0	0	0	1	0	0	138	18	0	0	81.66%
pred. ISFJ	0	0	0	0	1	0	0	0	0	14	0	0	4	80	0	0	80.81%
pred. ISTJ	0	0	0	0	0	0	0	1	6	0	0	2	0	0	57	3	82.61%
pred. ES...	0	1	0	0	0	0	2	0	3	0	0	17	0	0	11	101	74.81%
class rec...	91.61%	78.34%	87.86%	91.64%	93.30%	93.49%	78.50%	77.27%	88.37%	83.68%	79.85%	91.38%	83.13%	72.07%	72.15%	85.59%	



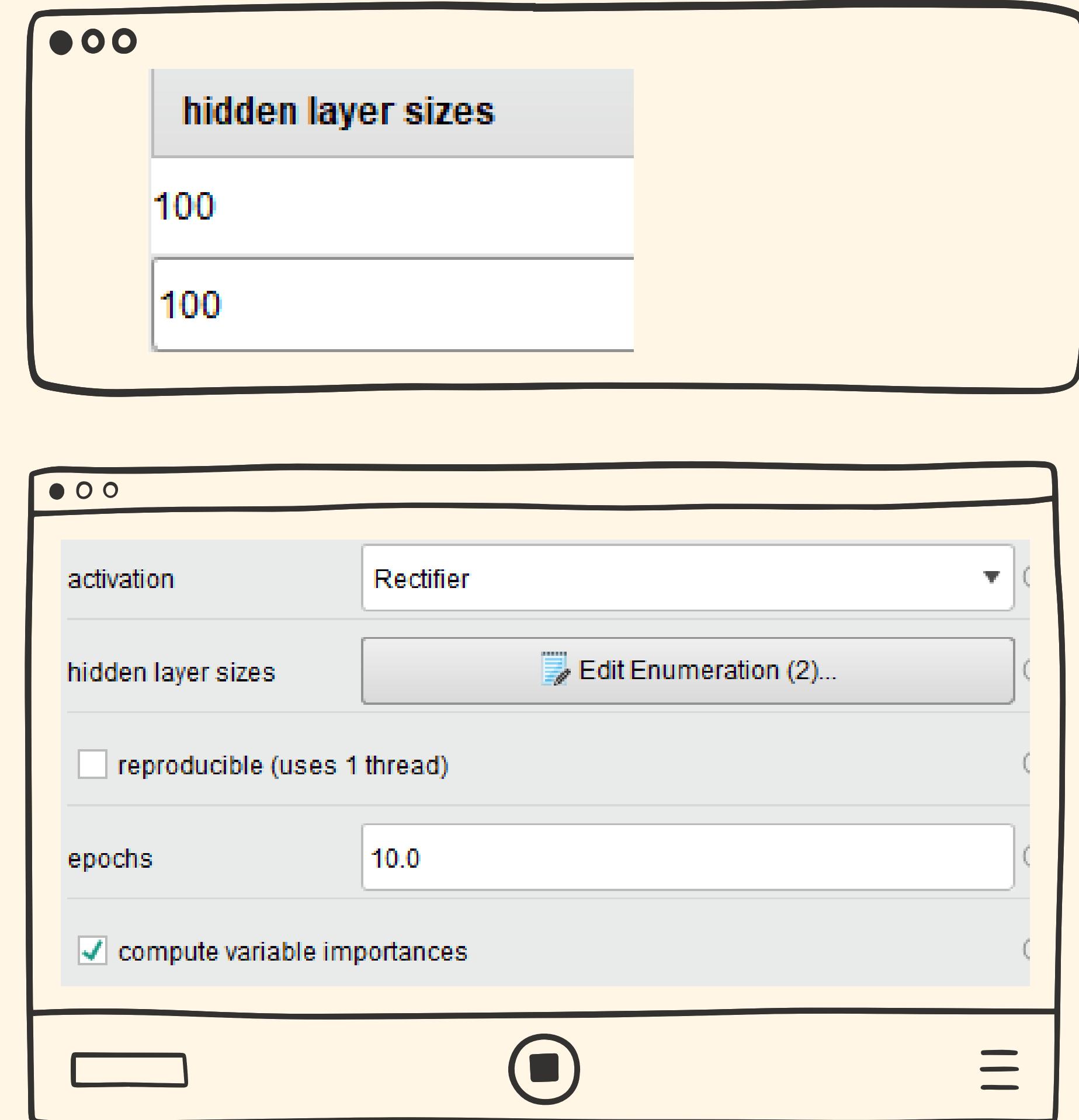
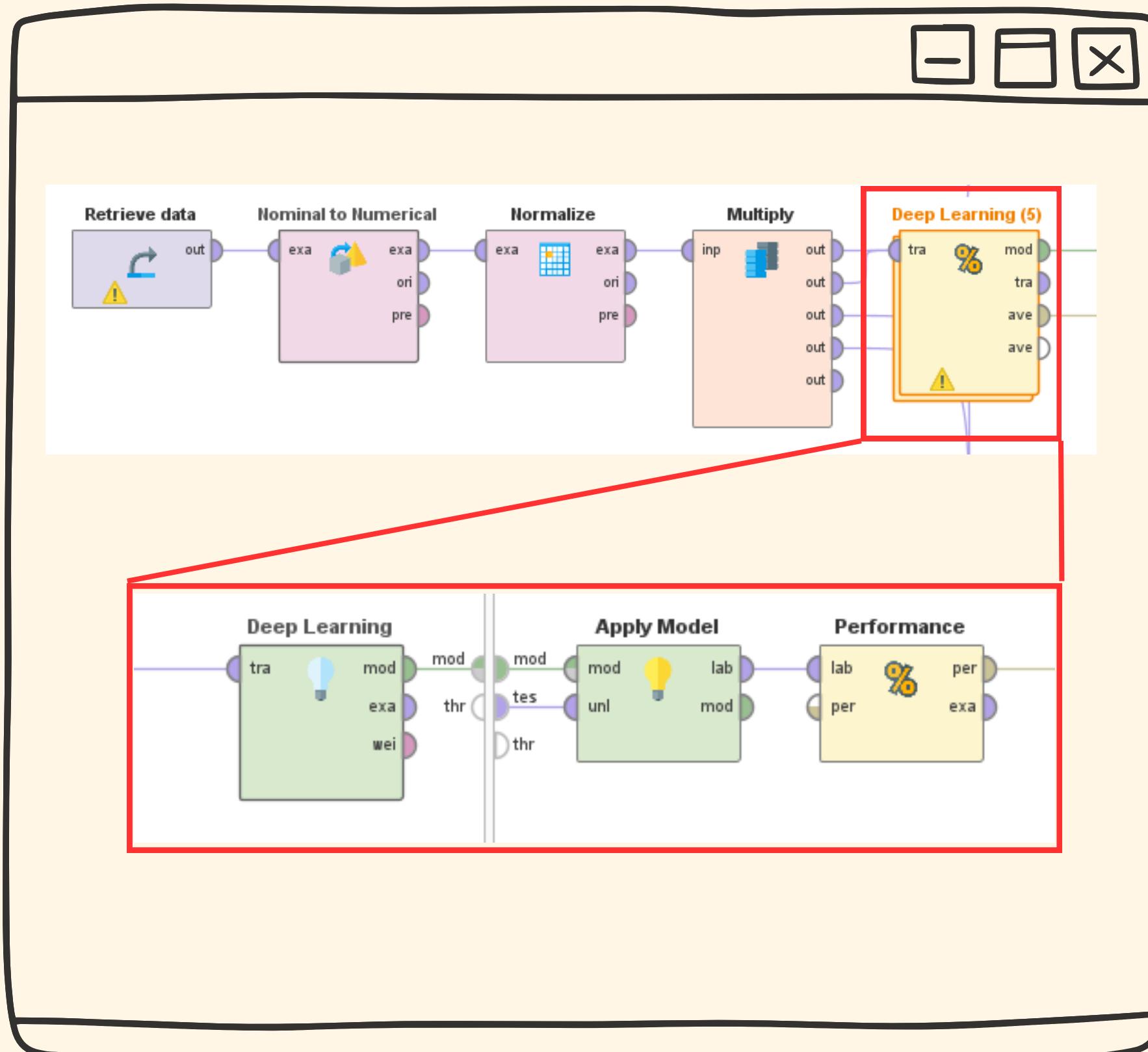
Neural Net with balanced data



accuracy: 91.21%

	true ESFP	true INTP	true ENFP	true INFP	true ENFJ	true ENTP	true ESTP	true ISTP	true INTJ	true INFJ	true ISFP	true ENTJ	true ESFJ	true ISFJ	true ISTJ	true ESTJ	class pr...
pred. ES...	2200	0	124	8	0	0	0	0	0	0	127	0	7	0	0	0	89.21%
pred. INTP	0	2145	0	16	0	185	2	10	1	0	0	0	0	0	0	0	90.93%
pred. EN...	20	0	2041	128	0	1	0	0	0	0	0	0	0	0	0	0	93.20%
pred. INFP	3	0	211	2142	0	0	0	0	0	1	26	0	0	0	0	0	89.89%
pred. EN...	0	0	9	0	2086	0	0	0	0	123	0	0	2	0	0	0	93.96%
pred. EN...	0	125	12	1	0	2096	15	0	0	0	0	0	0	0	0	0	93.20%
pred. ES...	7	6	1	0	0	93	2174	47	0	0	0	0	0	0	0	0	93.38%
pred. ISTP	0	108	0	0	0	17	208	2338	0	0	11	0	0	0	0	0	87.17%
pred. INTJ	0	14	0	0	1	1	0	0	2164	6	0	142	0	0	5	0	92.76%
pred. INFJ	0	0	1	6	192	0	0	0	0	2161	0	0	0	20	0	0	90.80%
pred. ISFP	166	0	2	99	0	0	0	0	0	0	2227	0	1	3	0	0	89.15%
pred. EN...	0	2	0	0	5	8	0	0	144	1	0	2154	0	0	0	15	92.49%
pred. ES...	5	0	0	0	114	0	0	0	0	8	0	0	2235	119	0	0	90.08%
pred. ISFJ	0	0	0	1	3	0	0	0	0	101	10	0	154	2257	1	0	89.32%
pred. ISTJ	0	1	0	0	0	0	1	6	89	0	0	13	0	2	2352	120	91.02%
pred. ES...	0	0	0	0	0	0	1	0	3	0	0	92	2	0	43	2266	94.14%
class rec...	91.63%	89.34%	85.01%	89.21%	86.88%	87.30%	90.55%	97.38%	90.13%	90.00%	92.75%	89.71%	93.09%	94.00%	97.96%	94.38%	

Deep learning



Deep Learning



Accuracy : 88.91%



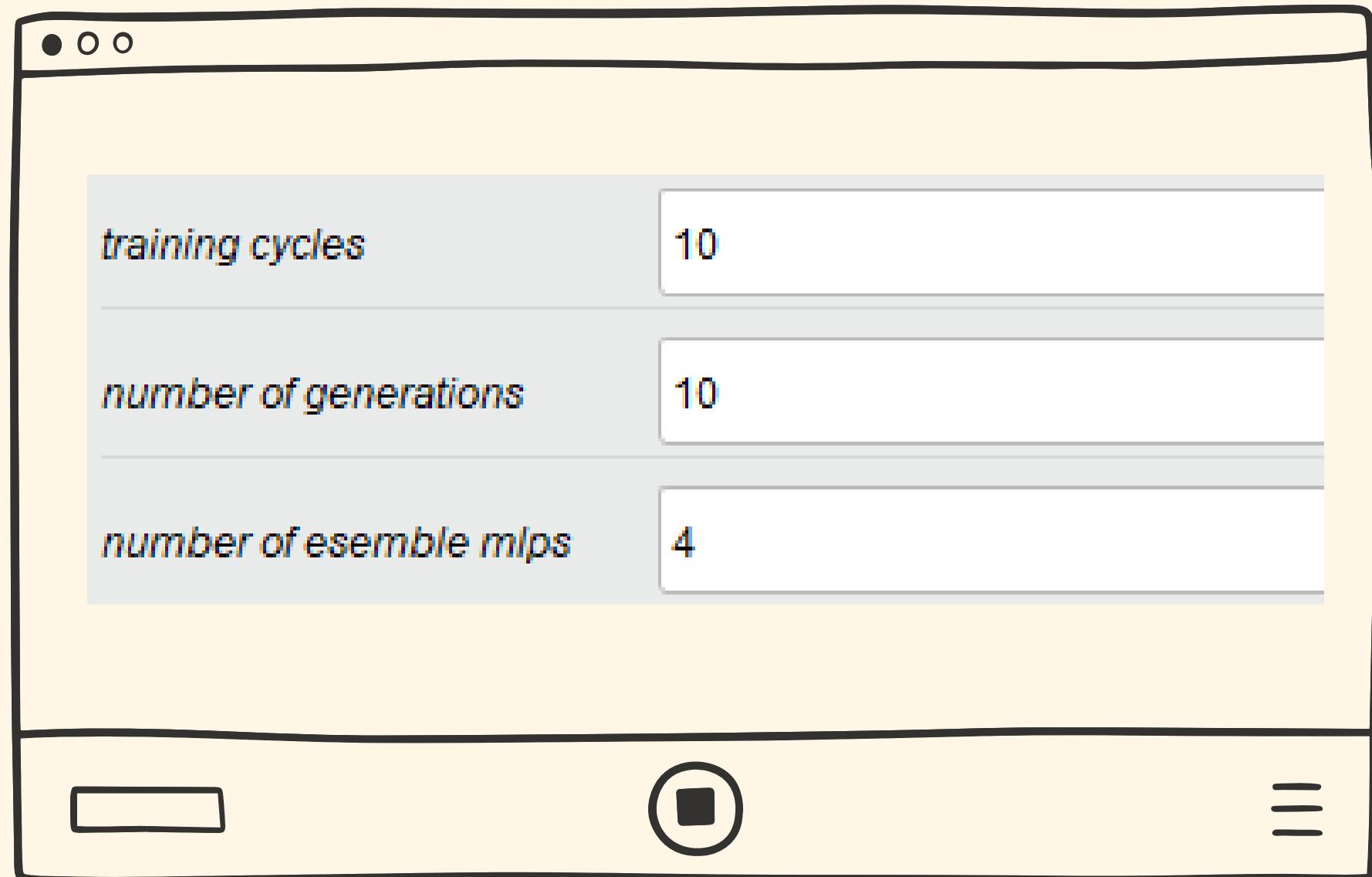
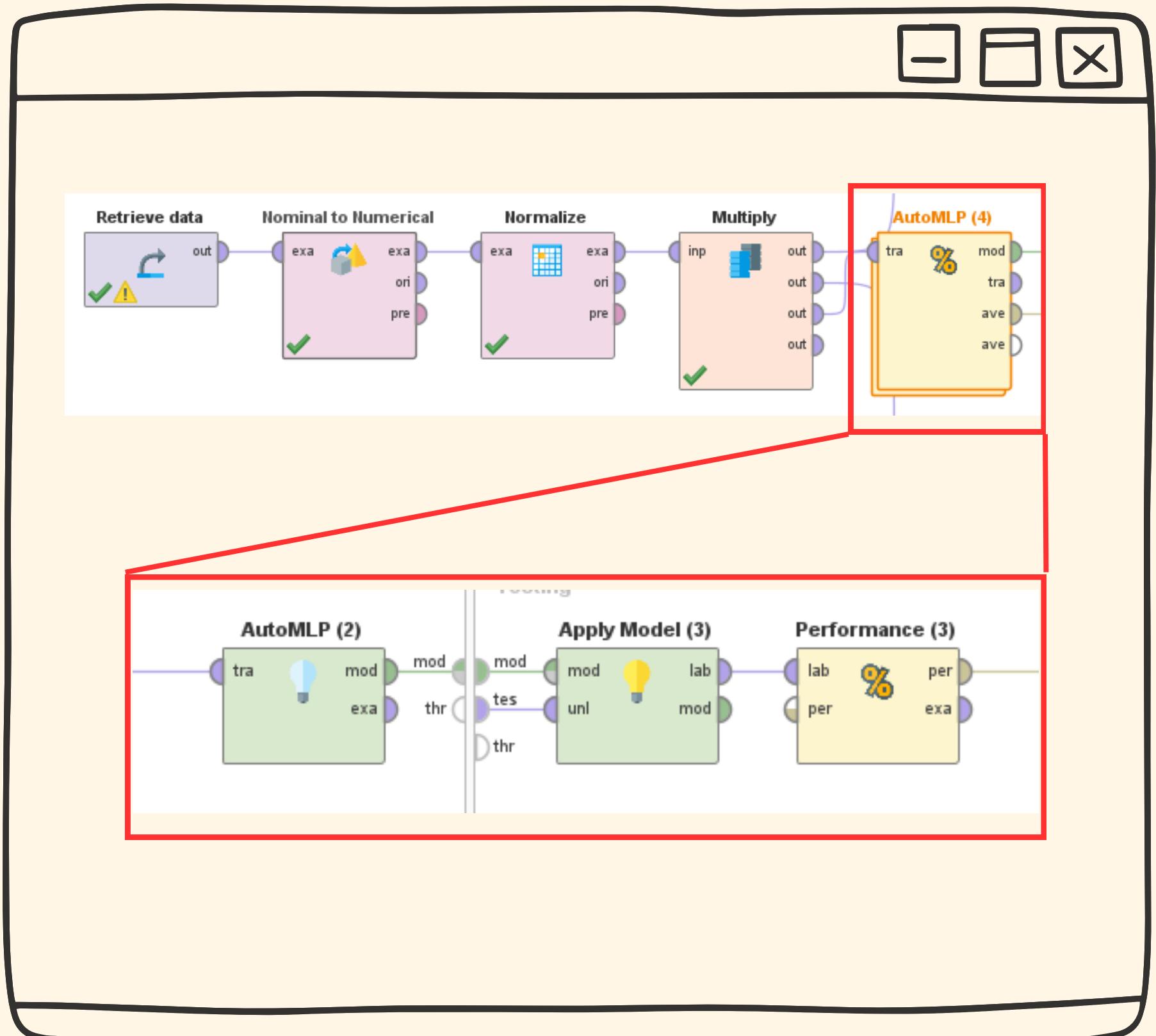
accuracy: 88.91%

	true ENFP	true ESFP	true INTP	true INFP	true ENFJ	true ENTP	true ESTP	true ISTP	true INTJ	true INFJ	true ISFP	true ENTJ	true ESFJ	true ISFJ	true ISTJ	true ESTJ	class pr...
pred. EN...	9278	173	3	441	2	26	0	0	0	0	9	0	0	0	0	0	93.42%
pred. ES...	110	1113	0	3	1	0	2	0	0	0	38	0	1	0	0	0	87.78%
pred. INTP	0	0	4626	2	0	589	9	104	0	0	0	0	0	0	0	0	86.79%
pred. INFP	863	19	47	6874	1	4	0	1	0	16	157	0	0	0	0	0	86.12%
pred. EN...	47	0	0	4	1095	0	0	0	1	156	0	2	9	2	0	0	83.21%
pred. EN...	13	0	375	0	0	6676	122	5	1	0	0	6	0	0	0	0	92.75%
pred. ES...	1	5	7	0	0	95	788	48	0	0	0	1	0	0	1	1	83.21%
pred. ISTP	0	0	56	0	0	3	72	555	0	0	2	0	0	0	2	0	80.43%
pred. INTJ	0	0	25	1	0	1	0	0	522	4	0	60	0	0	11	1	83.52%
pred. INFJ	0	0	0	7	37	0	0	0	1	671	0	0	0	4	0	0	93.19%
pred. ISFP	8	136	0	81	0	0	0	3	0	1	831	0	0	2	0	0	78.25%
pred. EN...	0	0	1	0	0	20	0	0	44	0	0	741	0	0	0	8	91.03%
pred. ES...	0	3	0	0	28	0	0	0	0	3	0	1	152	17	0	2	73.79%
pred. ISFJ	0	0	0	0	1	0	0	0	0	25	0	0	4	86	6	0	70.49%
pred. ISTJ	0	0	0	0	0	0	1	1	4	0	0	0	0	0	46	2	85.19%
pred. ES...	1	1	0	0	0	1	6	0	3	0	0	24	0	0	13	104	67.97%
class rec...	89.89%	76.76%	90.00%	92.73%	93.99%	90.03%	78.80%	77.41%	90.62%	76.60%	80.14%	88.74%	91.57%	77.48%	58.23%	88.14%	

Deep Learning with balanced data

	accuracy: 90.27%																
	true ESFP	true INTP	true ENFP	true INFP	true ENFJ	true ENTP	true ESTP	true ISTP	true INTJ	true INFJ	true ISFP	true ENTJ	true ESFJ	true ISFJ	true ISTJ	true ESTJ	class pr...
pred. ES...	2213	0	81	5	1	1	7	0	0	0	152	0	17	0	0	0	89.34%
pred. INTP	0	2193	0	17	0	223	4	58	0	0	0	0	0	0	0	0	87.90%
pred. EN...	56	1	2066	134	0	3	1	0	0	0	2	0	0	0	0	0	91.29%
pred. INFP	5	3	214	2141	0	0	0	0	0	1	59	0	0	0	0	0	88.36%
pred. EN...	1	0	26	1	2311	0	0	0	1	266	0	0	143	19	0	0	83.49%
pred. EN...	0	124	8	1	0	2058	47	0	0	0	0	0	0	0	0	0	91.96%
pred. ES...	1	10	0	0	0	75	2248	197	0	0	0	0	0	0	2	7	88.50%
pred. ISTP	0	57	0	1	0	5	88	2132	0	0	8	0	0	0	1	0	93.02%
pred. INTJ	0	5	0	0	0	1	0	0	1977	1	0	29	0	0	11	0	97.68%
pred. INFJ	0	0	4	25	55	0	0	0	3	2081	1	0	5	75	0	0	92.53%
pred. ISFP	124	0	2	76	0	0	1	7	0	0	2177	0	0	2	0	0	91.13%
pred. EN...	0	7	0	0	8	35	3	0	359	1	0	2336	0	0	31	145	79.86%
pred. ES...	1	0	0	0	25	0	0	0	0	5	0	0	2119	131	0	0	92.90%
pred. ISFJ	0	0	0	0	1	0	0	0	0	46	2	0	109	2173	1	0	93.18%
pred. ISTJ	0	1	0	0	0	0	0	7	57	0	0	5	1	0	2233	30	95.67%
pred. ES...	0	0	0	0	0	0	2	0	4	0	0	31	7	1	122	2219	93.00%
class rec...	92.17%	91.34%	86.05%	89.17%	96.25%	85.71%	93.63%	88.80%	82.34%	86.67%	90.67%	97.29%	88.25%	90.50%	93.00%	92.42%	

AutoMLP



AutoMLP

< > Accuracy : 90.05%

^ □ =

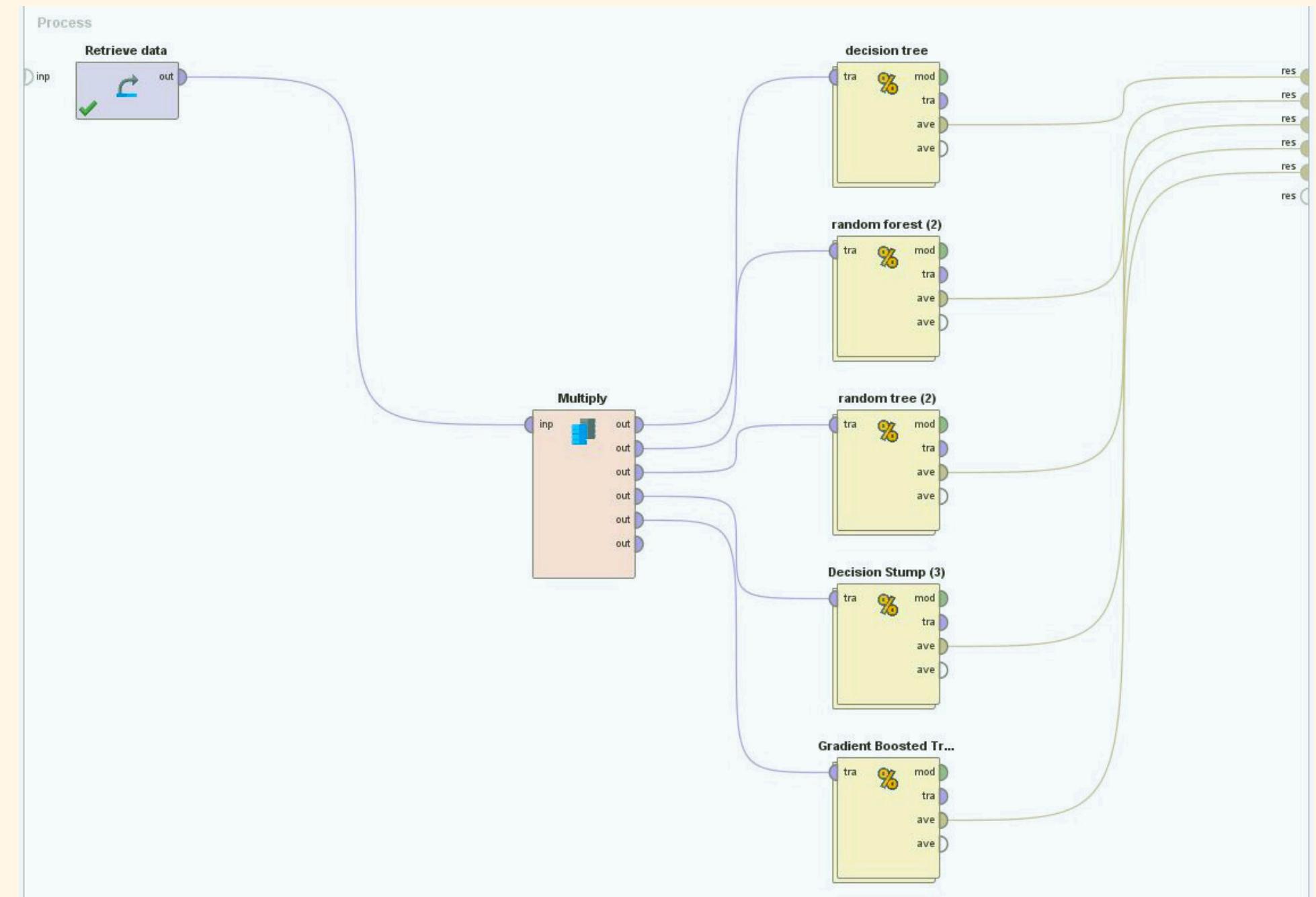
	true ENFP	true ESFP	true INTP	true INFP	true ENFJ	true ENTP	true ESTP	true ISTP	true INTJ	true INFJ	true ISFP	true ENTJ	true ESFJ	true ISFJ	true ISTJ	true ESTJ	class pr...
pred. EN...	9559	225	0	536	6	4	0	0	0	1	11	0	0	0	0	0	92.43%
pred. ES...	88	1123	0	7	0	0	1	0	0	0	77	0	1	0	0	0	86.58%
pred. INTP	1	0	4571	0	0	441	8	79	1	0	0	0	0	0	0	0	89.61%
pred. INFP	625	16	25	6778	0	0	0	0	0	3	150	0	0	0	0	0	89.22%
pred. EN...	6	0	0	1	1078	0	0	0	0	77	0	1	23	2	0	0	90.74%
pred. EN...	34	0	451	1	0	6877	112	3	2	0	0	17	0	0	0	0	91.73%
pred. ES...	0	5	12	0	0	86	800	46	0	0	0	0	0	0	0	1	84.21%
pred. ISTP	0	1	77	0	0	5	78	587	0	0	4	0	0	0	0	0	78.06%
pred. INTJ	0	0	3	0	0	0	0	0	533	2	0	62	0	0	8	0	87.66%
pred. INFJ	2	0	0	9	71	0	0	0	1	773	0	0	0	4	0	0	89.88%
pred. ISFP	6	78	0	81	0	0	0	2	0	0	793	0	0	0	0	0	82.60%
pred. EN...	0	0	1	0	1	2	0	0	32	0	0	744	0	0	3	11	93.70%
pred. ES...	0	2	0	0	9	0	0	0	0	1	0	0	135	16	0	0	82.82%
pred. ISFJ	0	0	0	0	0	0	0	0	0	19	2	0	7	89	1	0	75.42%
pred. ISTJ	0	0	0	0	0	0	0	0	4	0	0	1	0	0	59	7	83.10%
pred. ES...	0	0	0	0	0	0	1	0	3	0	0	10	0	0	8	99	81.82%
class rec...	92.62%	77.45%	88.93%	91.43%	92.53%	92.74%	80.00%	81.87%	92.53%	88.24%	76.47%	89.10%	81.33%	80.18%	74.68%	83.90%	

AutoMLP with balanced data

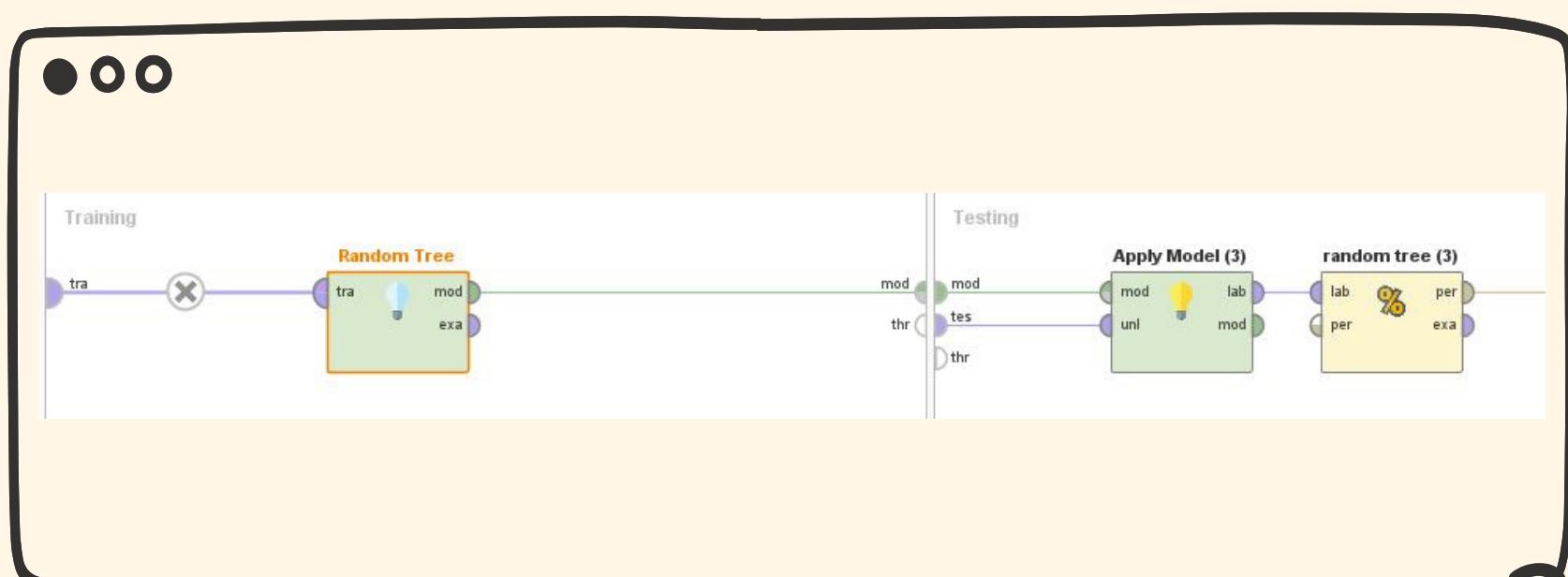
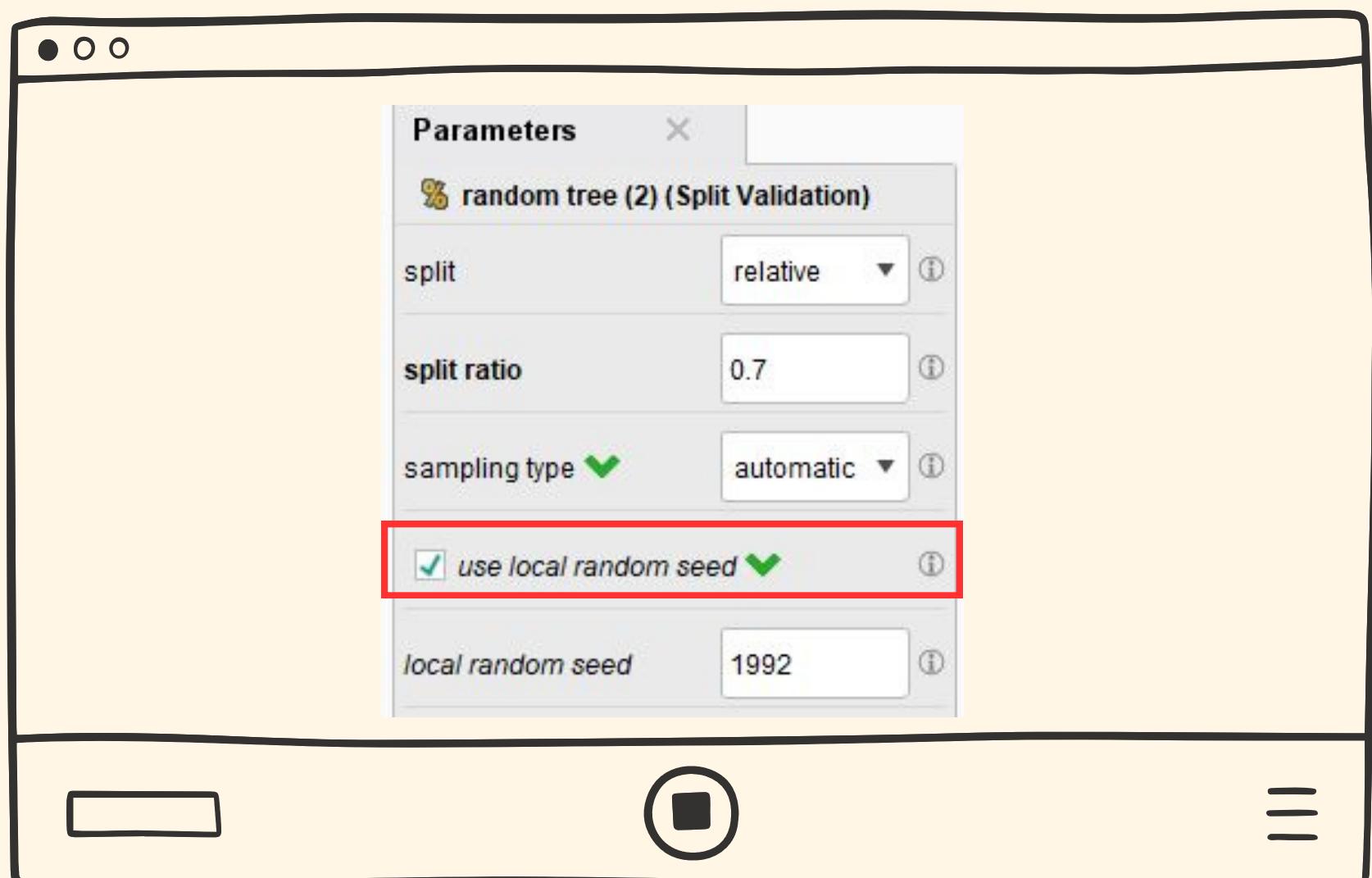
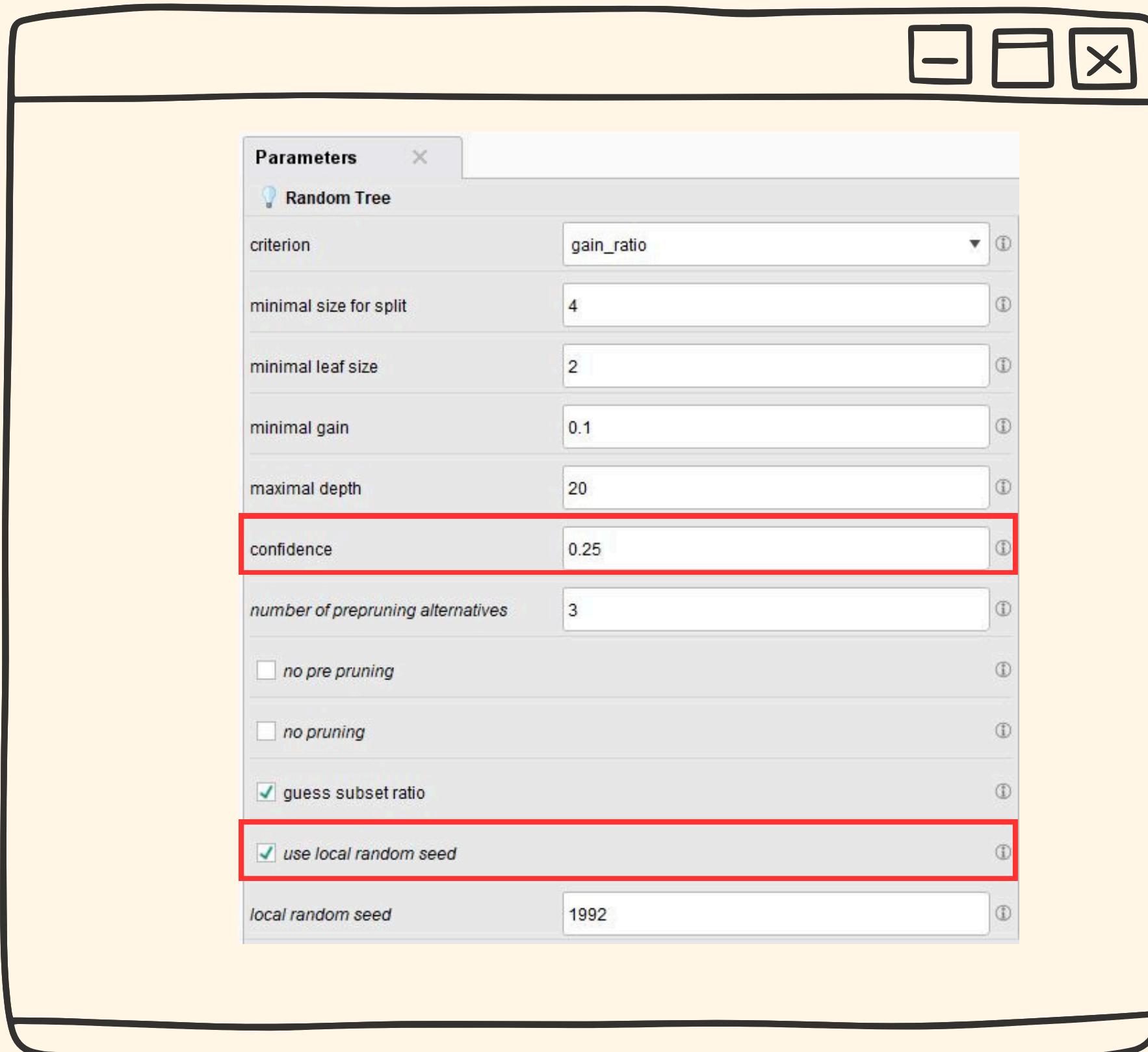
accuracy: 91.52%

	true ESFP	true INTP	true ENFP	true INFP	true ENFJ	true ENTP	true ESTP	true ISTP	true INTJ	true INFJ	true ISFP	true ENTJ	true ESFJ	true ISFJ	true ISTJ	true ESTJ	class pr...
pred. ES...	2204	0	102	15	0	0	3	0	0	0	152	0	3	0	0	0	88.91%
pred. INTP	0	2128	1	9	0	189	0	27	0	0	0	0	0	0	0	0	90.40%
pred. EN...	40	0	2018	114	0	3	0	0	0	0	2	0	0	0	0	0	92.70%
pred. INFP	2	5	243	2170	0	0	0	0	0	0	34	0	0	0	0	0	88.43%
pred. EN...	0	0	15	1	2108	0	0	0	0	90	0	0	23	3	0	0	94.11%
pred. EN...	0	170	13	1	0	2119	65	3	0	0	0	0	0	0	0	0	89.37%
pred. ES...	1	2	0	0	0	64	2170	87	0	0	1	0	0	0	0	0	93.33%
pred. ISTP	0	80	0	1	0	14	161	2275	0	0	7	0	0	0	0	0	89.64%
pred. INTJ	0	11	0	0	0	0	0	0	2125	2	0	112	0	0	3	0	94.32%
pred. INFJ	0	0	5	18	204	0	0	0	0	2247	0	0	6	20	0	0	89.88%
pred. ISFP	148	0	4	71	0	0	0	0	0	0	2197	0	1	4	0	0	90.60%
pred. EN...	0	3	0	0	4	11	0	0	188	0	0	2236	0	0	0	52	89.66%
pred. ES...	5	0	0	0	77	0	0	0	0	4	0	0	2282	101	0	0	92.43%
pred. ISFJ	1	0	0	1	7	0	0	0	0	58	8	0	86	2273	0	0	93.39%
pred. ISTJ	0	2	0	0	0	0	1	9	85	0	0	13	0	0	2358	101	91.79%
pred. ES...	0	0	0	0	1	1	1	0	3	0	0	40	0	0	40	2248	96.32%
class rec...	91.80%	88.63%	84.05%	90.38%	87.80%	88.25%	90.38%	94.75%	88.50%	93.59%	91.50%	93.13%	95.04%	94.67%	98.21%	93.63%	

Tree



Random Tree



Random Tree



Accuracy : 42.32%



accuracy: 42.32%																	
	true ENFP	true ESFP	true INTP	true INFP	true ENFJ	true ENTP	true ESTP	true ISTP	true INTJ	true INFJ	true ISFP	true ENTJ	true ESFJ	true ISFJ	true ISTJ	true ESTJ	class pre...
pred. EN...	10071	1407	813	1224	1136	7182	972	116	85	136	157	807	163	24	18	117	41.23%
pred. ES...	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
pred. INTP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
pred. INFP	250	43	4327	6189	29	233	28	601	491	740	880	28	3	87	61	1	44.24%
pred. EN...	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
pred. EN...	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
pred. ES...	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
pred. ISTP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
pred. INTJ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
pred. INFJ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
pred. ISFP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
pred. EN...	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
pred. ESFJ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
pred. ISFJ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
pred. ISTJ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
pred. ESTJ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
class rec...	97.58%	0.00%	0.00%	83.49%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	

Random Tree



Introversion Score

> 4.591

≤ 4.591

Judging Score

> 6.000 ≤ 6.000

ESTJ

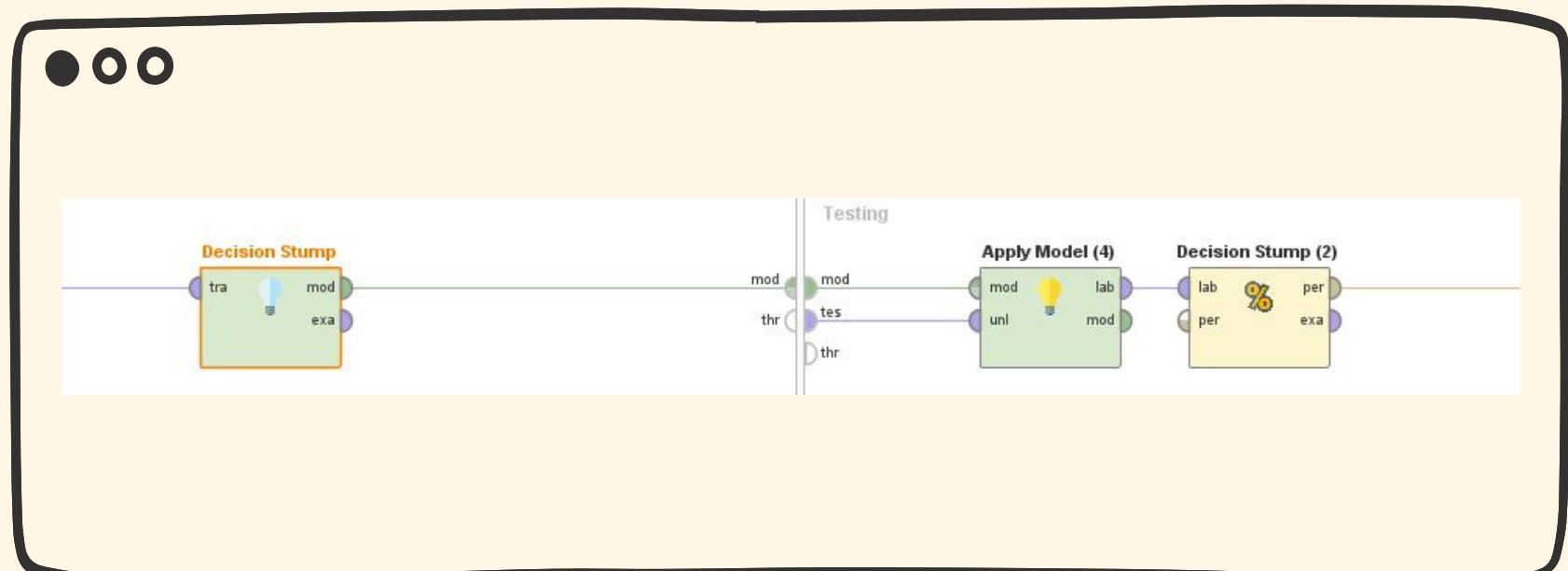
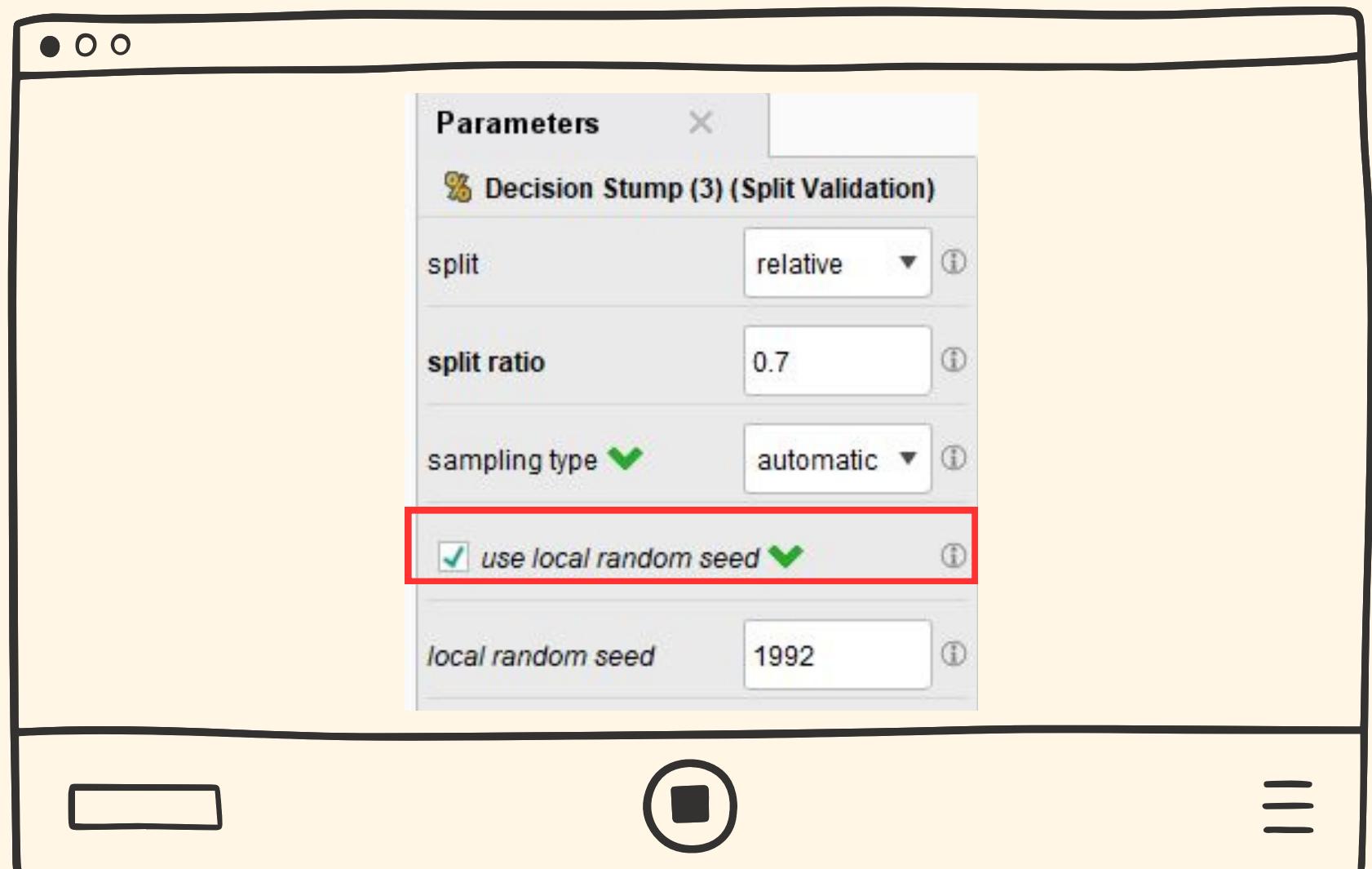
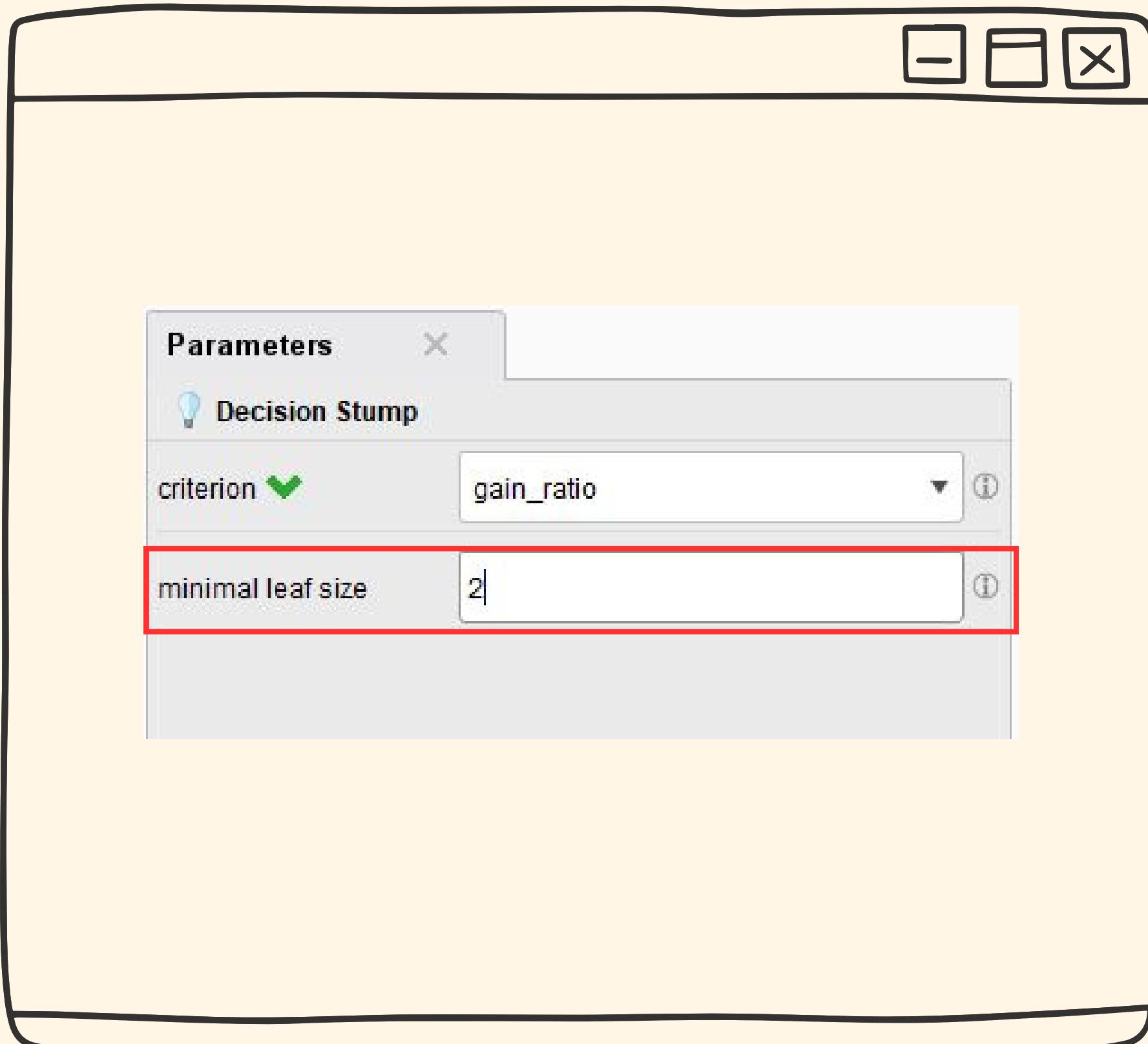
ESTP

INTJ

ISFP



Decision Stump



Decision Stump



Accuracy : 42.85%



accuracy: 42.85%																	
	true ENFP	true ESFP	true INTP	true INFP	true ENFJ	true ENTP	true ESTP	true ISTP	true INTJ	true INFJ	true ISFP	true ENTJ	true ESFJ	true ISFJ	true ISTJ	true ESTJ	class pre...
pred. EN...	10321	1450	775	7413	1165	1273	169	88	80	876	1037	131	166	111	11	16	41.15%
pred. ES...	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
pred. INTP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
pred. INFP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
pred. EN...	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
pred. EN...	0	0	4365	0	0	6142	831	629	496	0	0	704	0	0	68	102	46.05%
pred. ES...	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
pred. ISTP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
pred. INTJ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
pred. INFJ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
pred. ISFP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
pred. EN...	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
pred. ESFJ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
pred. ISFJ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
pred. ISTJ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
pred. ESTJ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
class rec...	100.00%	0.00%	0.00%	0.00%	0.00%	82.83%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	

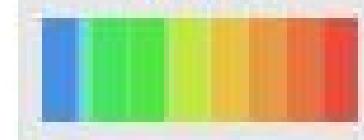
Decision Stump



Sensing Score

$> 6.100 \leq 6.100$

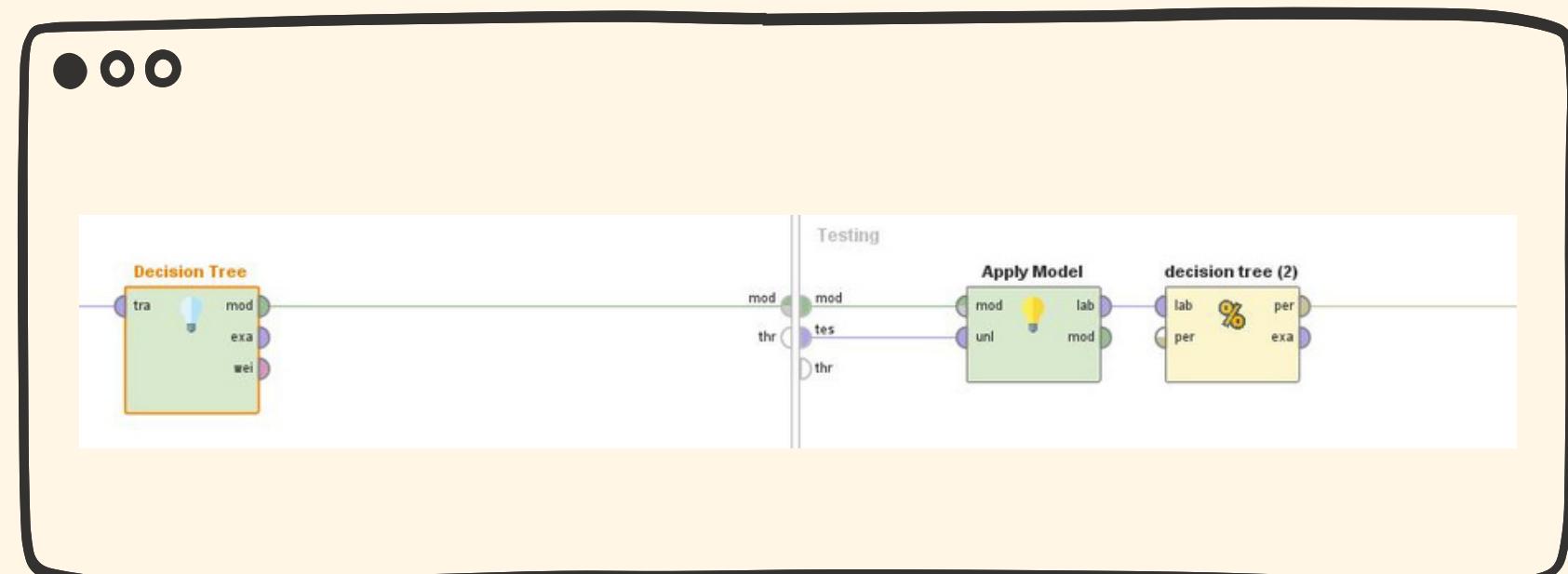
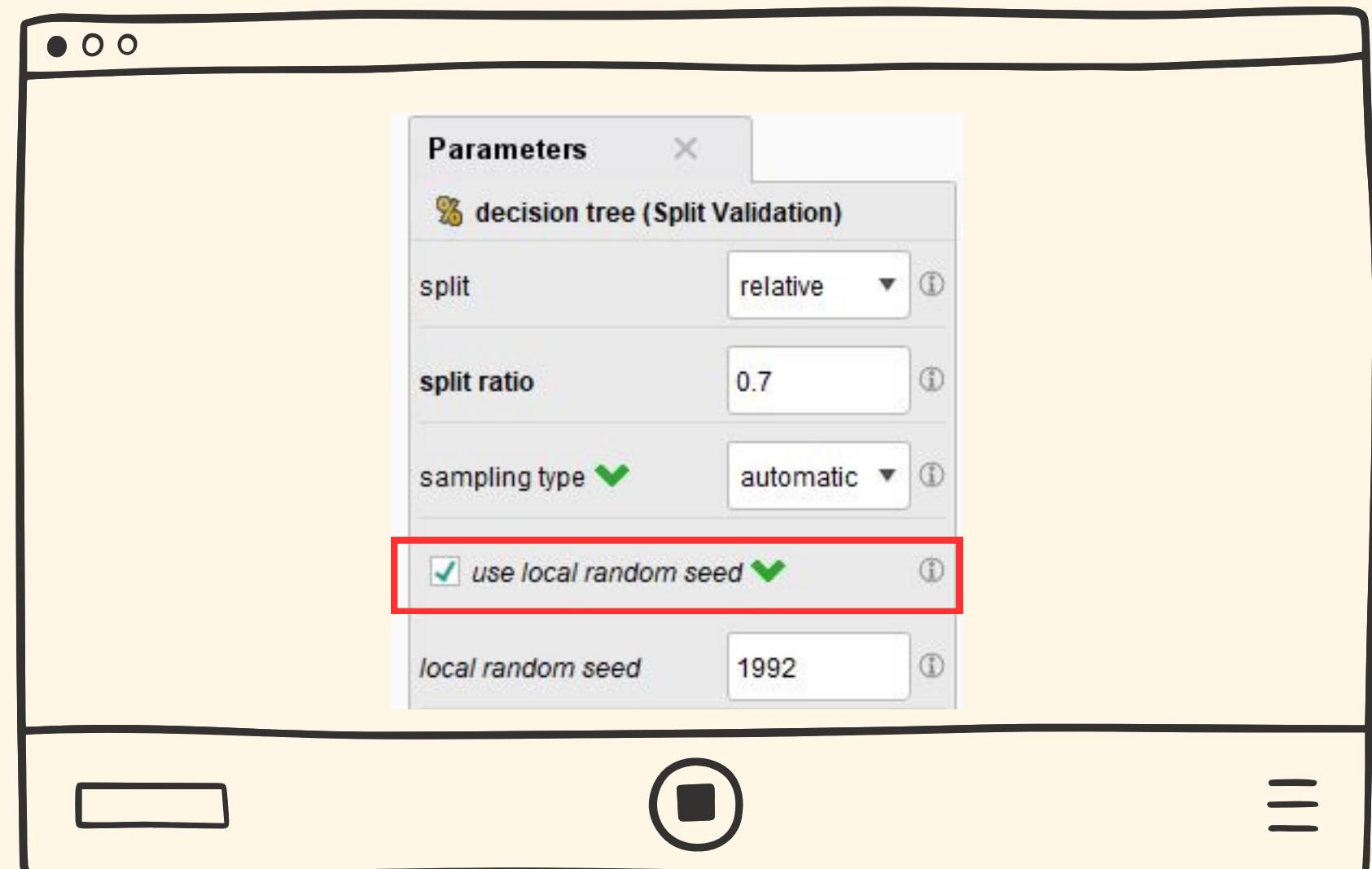
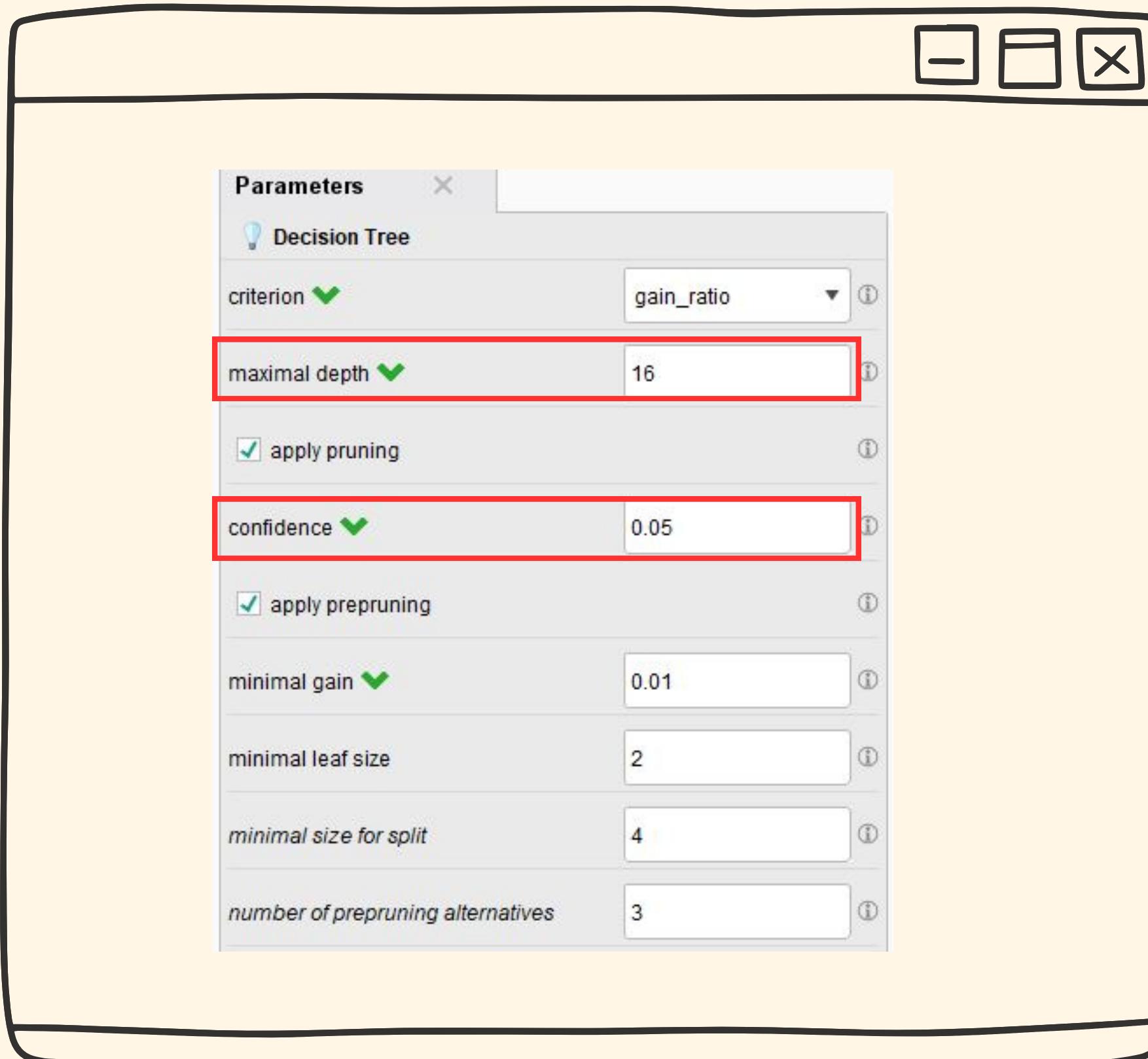
ISTJ



INTJ



Decision Tree



Decision Tree

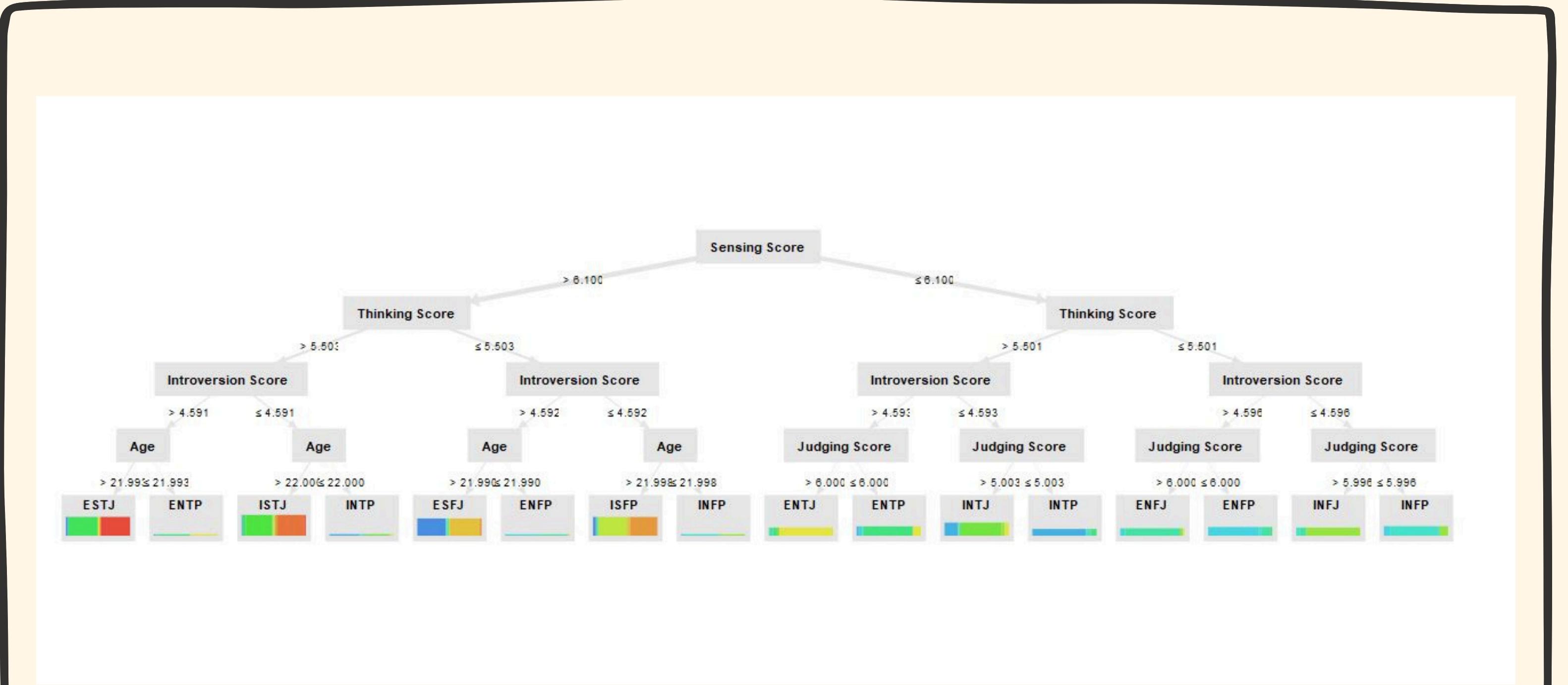


Accuracy : 88.96%

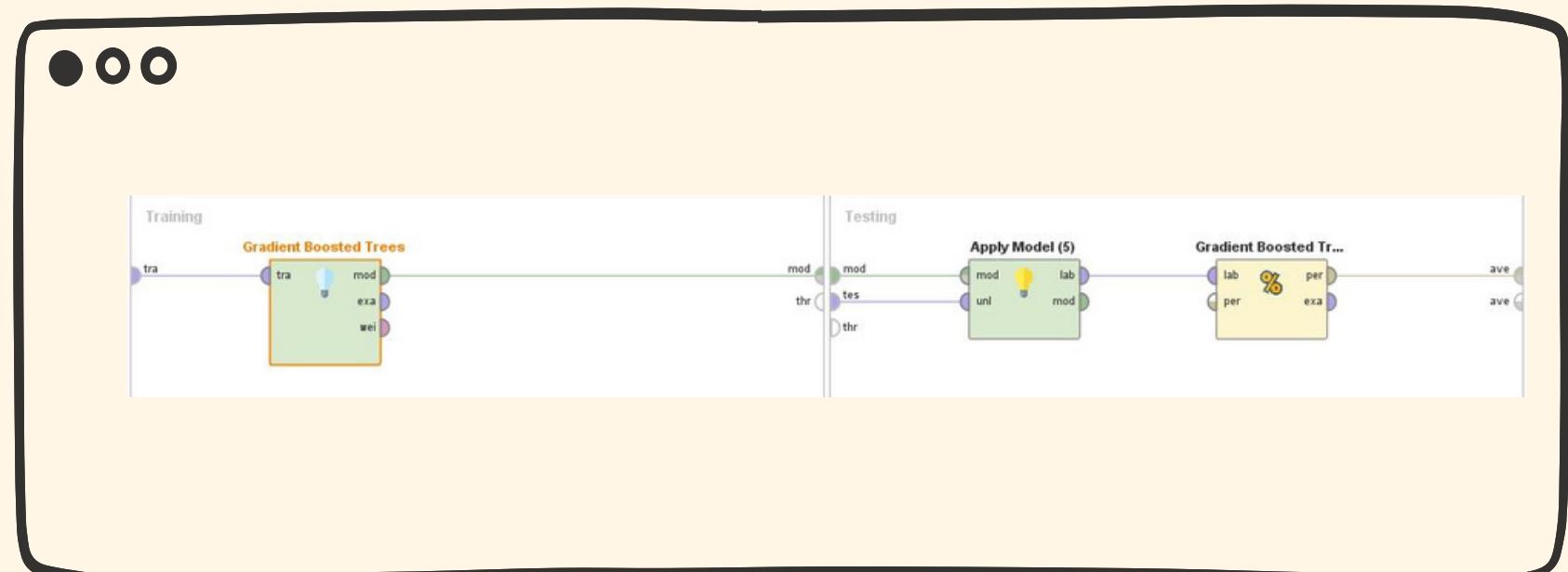
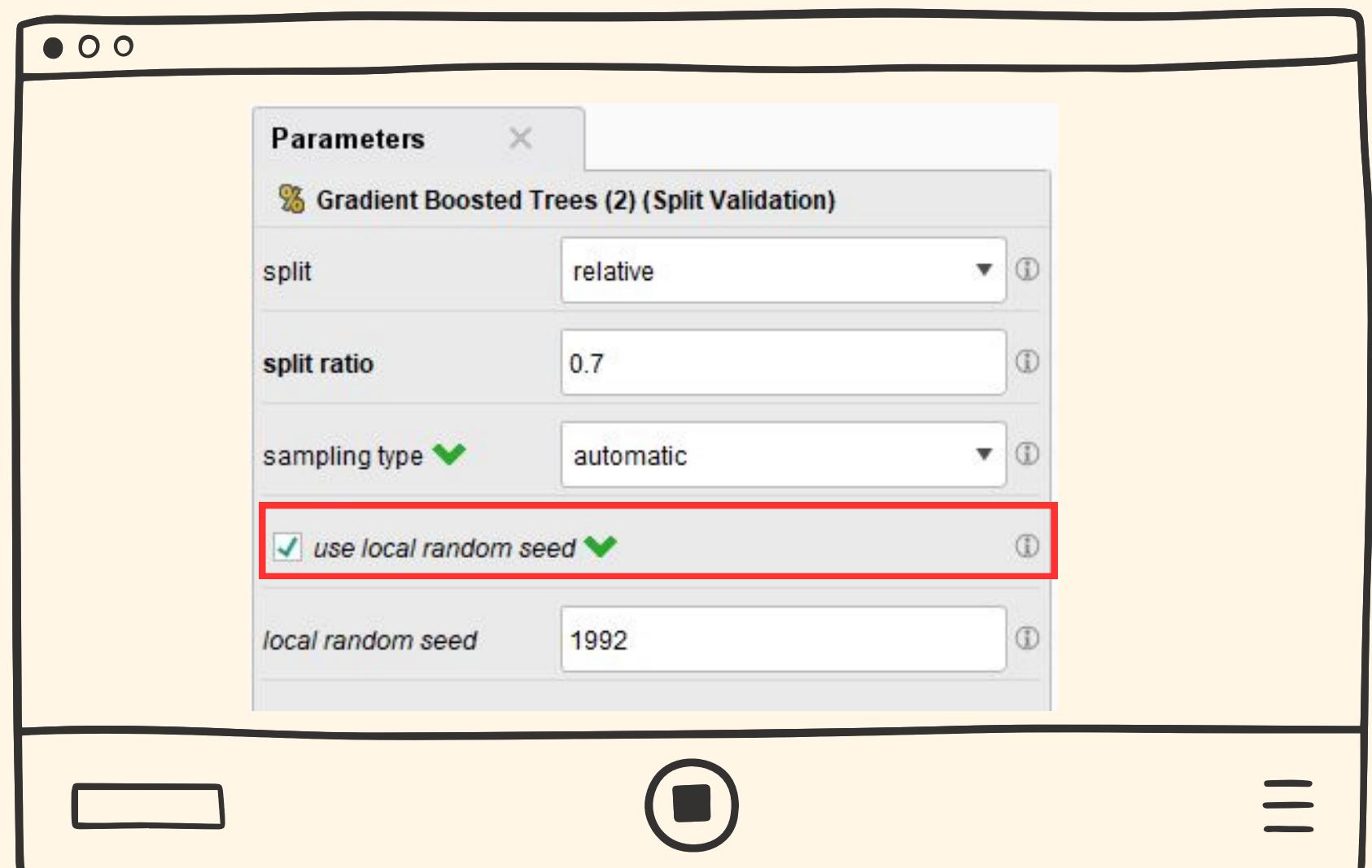
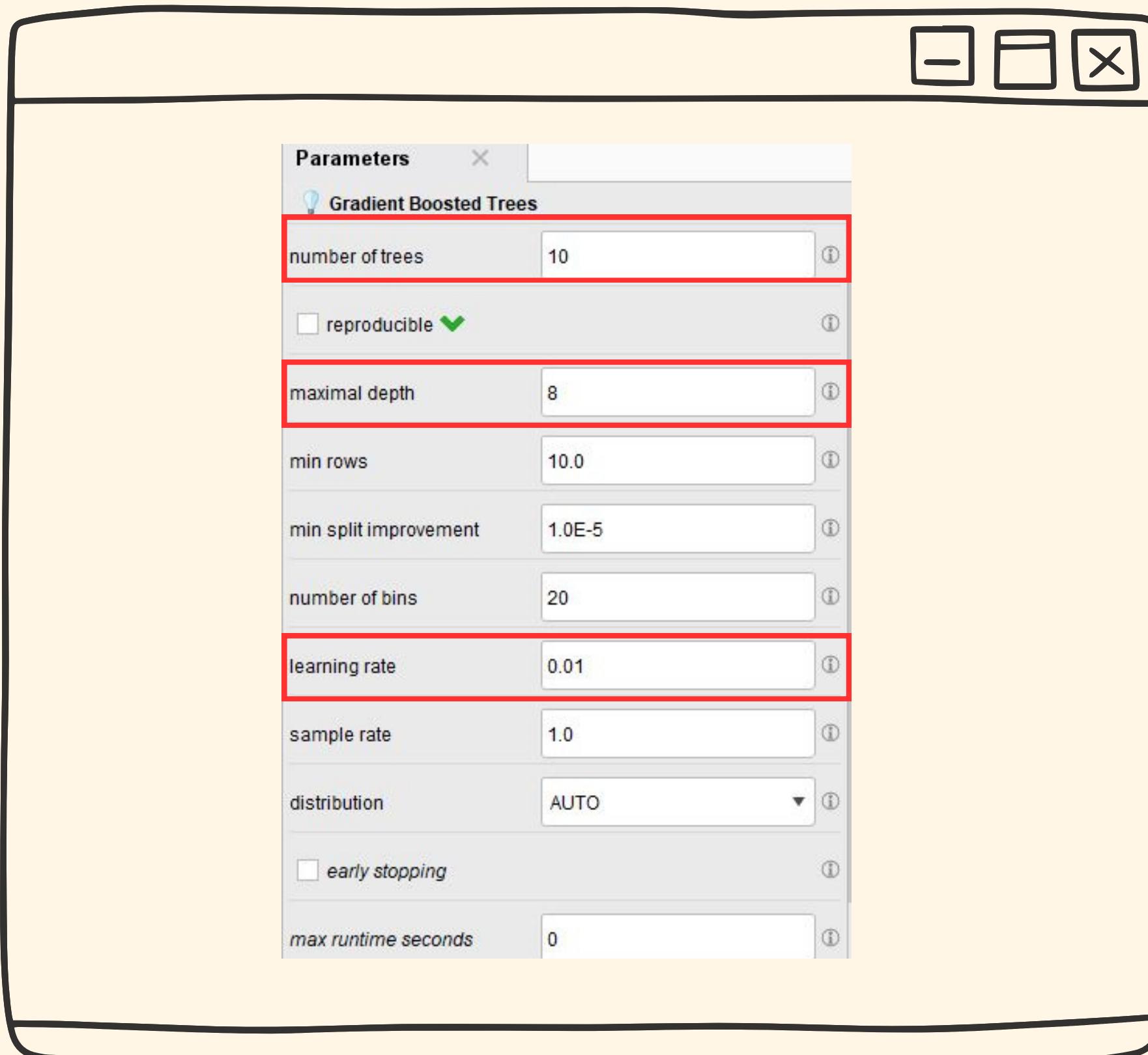


accuracy: 88.96%																	
	true ENFP	true ESFP	true INTP	true INFP	true ENFJ	true ENTP	true ESTP	true ISTP	true INTJ	true INFJ	true ISFP	true ENTJ	true ESFJ	true ISFJ	true ISTJ	true ESTJ	class pre...
pred. EN...	9569	196	1	558	35	12	2	1	0	11	9	0	3	1	0	0	92.03%
pred. ES...	62	1093	0	3	0	2	16	0	0	0	43	0	12	0	0	0	88.79%
pred. INTP	2	0	4791	8	0	743	16	90	28	2	2	10	0	0	2	0	84.14%
pred. INFP	671	21	7	6615	11	2	1	0	0	25	32	0	0	0	0	0	89.57%
pred. EN...	2	1	0	0	992	0	0	0	0	42	0	1	7	2	0	1	94.66%
pred. EN...	4	0	265	3	0	6474	62	5	7	0	0	19	0	0	0	1	94.65%
pred. ES...	0	2	10	0	0	167	861	72	0	0	0	6	0	0	1	7	76.47%
pred. ISTP	0	0	50	0	0	10	38	517	0	0	3	0	0	0	8	0	82.59%
pred. INTJ	0	0	1	1	1	0	0	1	497	2	0	70	0	1	8	0	85.40%
pred. INFJ	1	0	0	2	93	0	0	0	9	773	0	2	2	5	0	0	87.15%
pred. ISFP	10	137	12	223	1	3	3	30	1	1	948	0	2	19	0	0	68.20%
pred. EN...	0	0	2	0	3	2	0	0	27	1	0	712	0	0	0	4	94.81%
pred. ESFJ	0	0	0	0	28	0	0	0	0	2	0	0	129	17	0	4	71.67%
pred. ISFJ	0	0	0	0	1	0	0	0	0	16	0	0	3	64	3	0	73.56%
pred. ISTJ	0	0	1	0	0	0	0	1	5	1	0	3	0	2	50	10	68.49%
pred. ESTJ	0	0	0	0	0	0	1	0	2	0	0	12	8	0	7	91	75.21%
class rec...	92.71%	75.38%	93.21%	89.24%	85.15%	87.31%	86.10%	72.11%	86.28%	88.24%	91.42%	85.27%	77.71%	57.66%	63.29%	77.12%	

Decision Tree



Gradient boosted tree



Gradient boosted tree

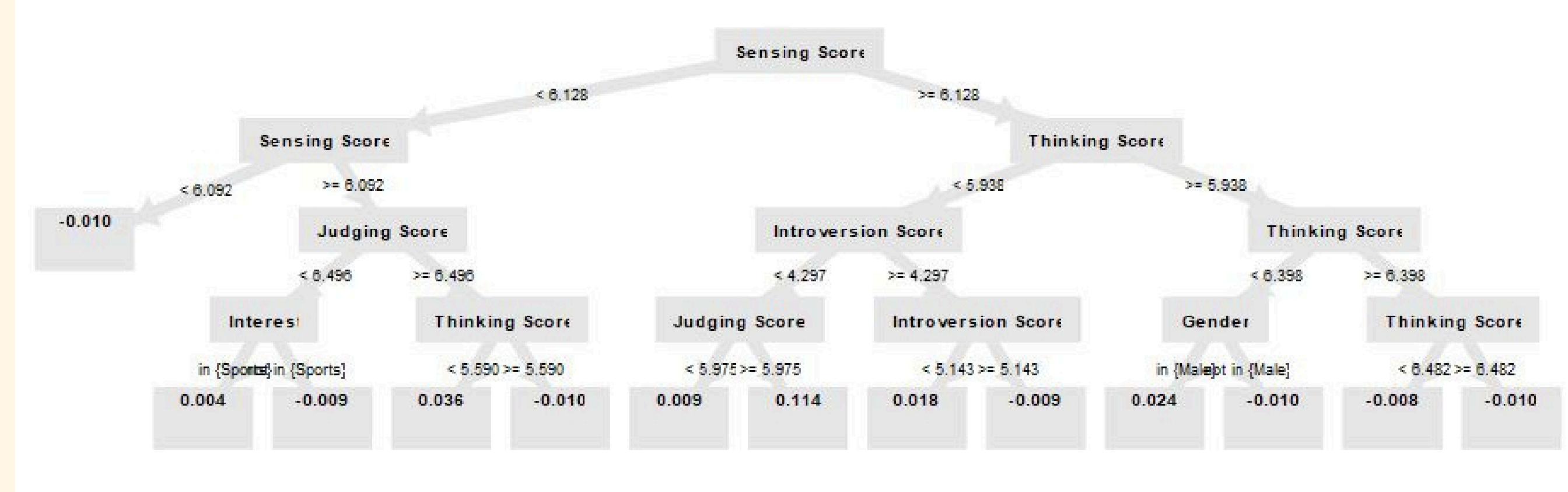


Accuracy : 90.36%

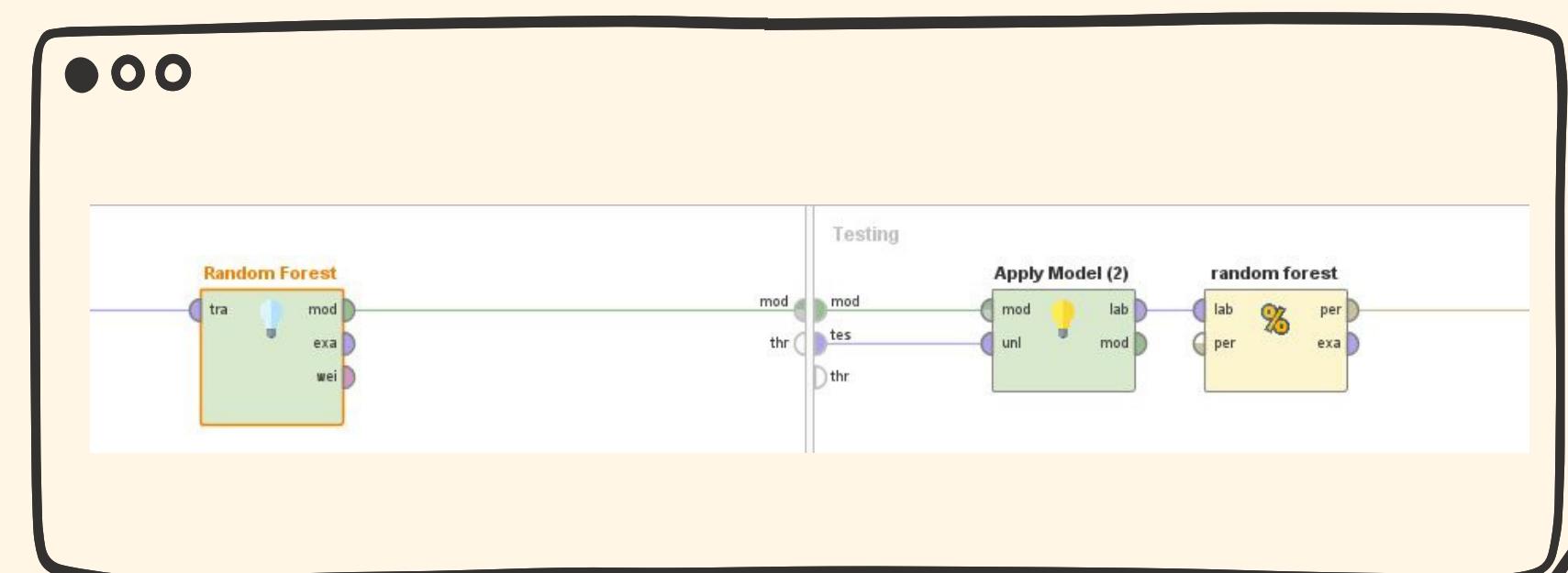
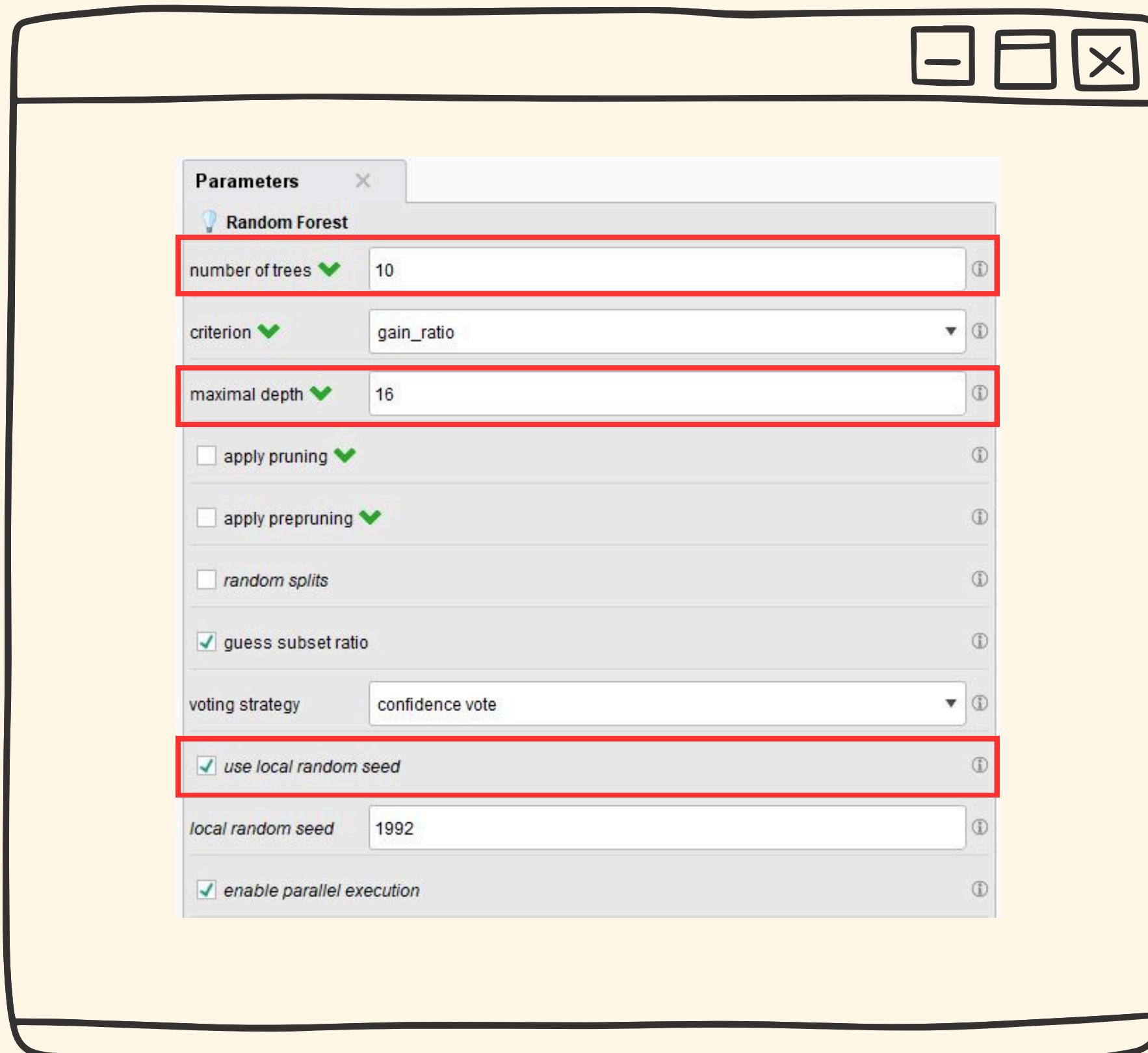


	true ENFP	true ESFP	true INTP	true INFP	true ENFJ	true ENTP	true ESTP	true ISTP	true INTJ	true INFJ	true ISFP	true ENTJ	true ESFJ	true ISFJ	true ISTJ	true ESTJ	class pre...
pred. EN...	9610	152	1	558	40	3	0	0	0	3	12	0	2	1	0	0	92.56%
pred. ES...	113	1198	0	12	0	0	0	0	0	1	55	0	14	1	0	0	85.94%
pred. INTP	1	0	4659	7	0	434	12	89	24	0	3	5	0	0	0	0	89.01%
pred. INFP	584	16	19	6742	2	0	0	0	0	28	122	0	0	0	0	0	89.74%
pred. EN...	4	0	0	0	1027	0	0	0	0	60	0	0	12	4	0	0	92.77%
pred. EN...	0	0	391	1	0	6905	123	7	4	0	0	25	0	0	0	1	92.60%
pred. ES...	3	10	5	0	0	62	817	42	0	0	1	0	1	0	0	9	86.00%
pred. ISTP	0	2	61	0	0	9	46	568	0	0	0	0	0	0	3	0	82.44%
pred. INTJ	0	0	3	0	0	0	0	0	489	1	0	43	0	0	10	0	89.56%
pred. INFJ	0	0	0	5	74	0	0	0	7	768	0	1	2	7	0	0	88.89%
pred. ISFP	6	72	0	88	0	1	2	11	0	0	844	0	0	10	0	0	81.62%
pred. EN...	0	0	1	0	1	1	0	0	44	0	0	743	0	0	2	8	92.88%
pred. ESFJ	0	0	0	0	19	0	0	0	0	0	0	126	11	0	3	0	79.25%
pred. ISFJ	0	0	0	0	2	0	0	0	2	13	0	1	8	76	2	0	73.08%
pred. ISTJ	0	0	0	0	0	0	0	0	6	2	0	0	0	1	57	10	75.00%
pred. ESTJ	0	0	0	0	0	0	0	0	0	0	17	1	0	5	87	0	79.09%
class rec...	93.11%	82.62%	90.64%	90.95%	88.15%	93.12%	81.70%	79.22%	84.90%	87.67%	81.39%	88.98%	75.90%	68.47%	72.15%	73.73%	

Gradient boosted tree



Random Forest



Random Forest

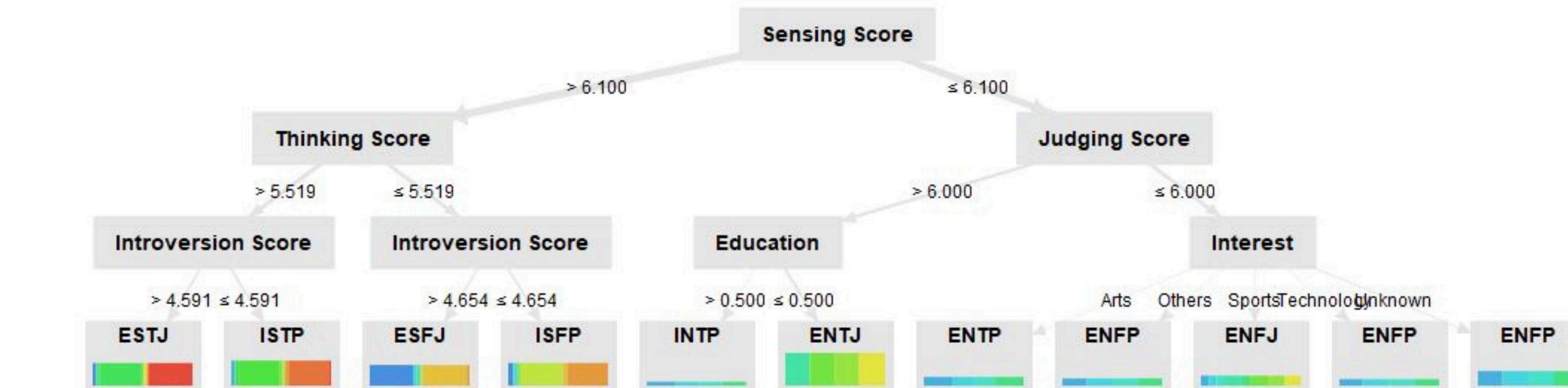


Accuracy : 89.97%

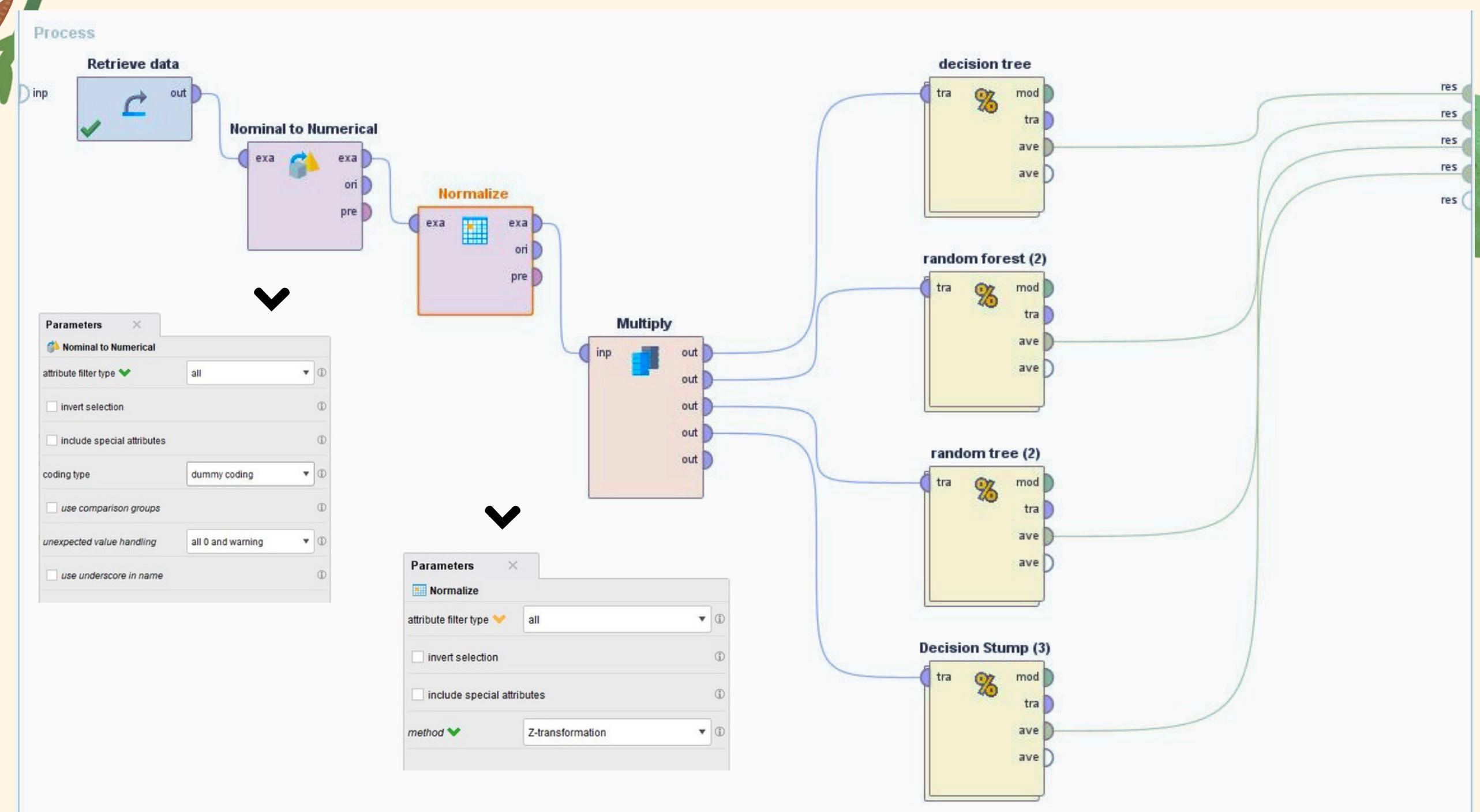


accuracy: 89.97%																	
	true ENFP	true ESFP	true INTP	true INFP	true ENFJ	true ENTP	true ESTP	true ISTP	true INTJ	true INFJ	true ISFP	true ENTJ	true ESFJ	true ISFJ	true ISTJ	true ESTJ	class pre...
pred. EN...	9660	216	7	587	34	28	2	0	0	9	13	0	2	1	0	0	91.49%
pred. ES...	70	1144	0	8	1	2	12	0	0	0	81	0	14	3	0	0	85.69%
pred. INTP	1	0	4673	1	0	461	11	88	25	1	1	7	0	0	2	0	88.65%
pred. INFP	579	9	24	6711	11	9	1	0	0	21	105	0	0	4	0	0	89.79%
pred. EN...	0	0	0	0	1043	0	0	0	0	71	0	1	16	3	0	0	91.98%
pred. EN...	4	0	370	1	0	6830	118	5	8	0	0	42	0	0	0	0	92.57%
pred. ES...	0	1	2	0	0	71	788	30	0	0	0	2	0	0	0	12	86.98%
pred. ISTP	0	1	59	1	0	13	68	582	0	0	0	0	0	0	9	1	79.29%
pred. INTJ	0	0	3	0	1	0	0	0	489	3	0	46	0	0	9	0	88.75%
pred. INFJ	0	0	0	2	54	0	0	0	10	757	0	2	0	7	0	0	90.99%
pred. ISFP	7	78	2	102	1	0	0	12	0	0	837	0	0	12	0	0	79.64%
pred. EN...	0	0	0	0	1	1	0	0	37	0	0	722	0	0	0	7	94.01%
pred. ESFJ	0	1	0	0	18	0	0	0	0	0	0	0	128	12	0	2	79.50%
pred. ISFJ	0	0	0	0	1	0	0	0	0	13	0	0	6	68	3	0	74.73%
pred. ISTJ	0	0	0	0	0	0	0	0	6	1	0	1	0	1	46	8	73.02%
pred. ESTJ	0	0	0	0	0	0	0	0	1	0	0	12	0	0	10	88	79.28%
class rec...	93.60%	78.90%	90.91%	90.53%	89.53%	92.11%	78.80%	81.17%	84.90%	86.42%	80.71%	86.47%	77.11%	61.26%	58.23%	74.58%	

Random Forest



Tree



Original Data

Personality	Age	Gender	Education	Introversion ...	Sensing Sco...	Thinking Sc...	Judging Sco...	Interest
ENFP	19	Male	0	9.471	7.141	6.037	4.360	Unknown
ESFP	27	Female	0	5.854	6.160	0.806	4.221	Sports
ENFP	21	Female	0	7.086	3.388	2.662	5.127	Unknown
INTP	28	Male	0	2.019	4.824	7.306	5.987	Others
ENFP	36	Female	1	9.917	4.755	5.315	4.677	Technology
ENFP	25	Male	0	7.663	5.758	1.970	4.564	Others
INFP	26	Female	1	2.732	5.899	3.648	5.801	Unknown
ENFJ	27	Female	0	5.250	5.963	1.162	5.873	Sports
ENTP	29	Male	0	8.860	3.682	7.785	1.641	Others



Normalize

Personality	Gender = Ma...	Gender = Fe...	Interest = U...	Interest = S...	Interest = Ot...	Interest = Te...	Interest = Ar...	Age	Education	Introversion ...	Sensing Sco...	Thinking Sc...	Judging Sco...
ENFP	1	0	1	0	0	0	0	19	0	9.471	7.141	6.037	4.360
ESFP	0	1	0	1	0	0	0	27	0	5.854	6.160	0.806	4.221
ENFP	0	1	1	0	0	0	0	21	0	7.086	3.388	2.662	5.127
INTP	1	0	0	0	1	0	0	28	0	2.019	4.824	7.306	5.987
ENFP	0	1	0	0	0	1	0	36	1	9.917	4.755	5.315	4.677
ENFP	1	0	0	0	1	0	0	25	0	7.663	5.758	1.970	4.564
INFP	0	1	1	0	0	0	0	26	1	2.732	5.899	3.648	5.801
ENFJ	0	1	0	1	0	0	0	27	0	5.250	5.963	1.162	5.873
ENTP	1	0	0	0	1	0	0	29	0	8.860	3.682	7.785	1.641
INTP	0	1	0	0	0	1	0	24	0	1.626	5.161	7.255	3.826
ENFP	1	0	1	0	0	0	0	20	0	4.450	6.090	5.611	5.513
ENTP	0	1	0	0	0	0	1	29	1	7.691	4.198	9.228	6.079
ENFP	1	0	0	0	0	1	0	24	1	6.917	4.559	0.544	6.195
ENFP	1	0	0	0	1	0	0	21	1	6.986	5.514	3.997	3.810
ENFP	1	0	1	0	0	0	0	23	1	5.021	4.806	4.415	4.865

Filter (128,061 / 128,061 examples):

Decision Tree

Accuracy : 89.23%

	true ENFP	true ESFP	true INTP	true INFJ	true ENFJ	true ENTP	true ESTP	true ISTP	true INTJ	true INFJ	true ISFP	true ENTJ	true ESFJ	true ISFJ	true ISTJ	true ESTJ	class pre...
pred.EN...	9592	201	1	592	9	9	4	0	0	1	6	0	0	0	0	92.10%	
pred.ES...	63	1084	0	4	0	2	13	0	0	0	35	0	11	0	0	89.44%	
pred.INTP	0	0	4779	2	0	724	17	86	10	0	2	2	0	0	1	0	84.99%
pred.INFP	648	19	3	6593	7	1	1	0	0	10	39	0	0	0	0	90.06%	
pred.EN...	0	0	0	0	1012	0	0	0	0	50	0	0	12	3	0	1	93.88%
pred.EN...	4	0	275	1	0	6492	60	5	2	0	0	11	0	0	0	1	94.76%
pred.ES...	1	5	7	0	0	165	863	70	0	0	0	2	0	0	0	3	77.33%
pred.ISTP	0	0	57	0	0	11	38	524	0	0	0	1	0	0	2	0	82.78%
pred.INTJ	0	0	1	1	0	0	0	1	514	9	0	67	0	1	8	0	85.38%
pred.INFJ	0	0	0	0	106	0	0	0	2	783	0	2	1	4	0	0	87.19%
pred.ISFP	12	141	12	220	1	3	3	31	1	1	955	0	2	7	0	0	68.75%
pred.EN...	0	0	4	0	1	8	0	0	40	0	0	736	0	0	2	7	92.23%
pred.ESFJ	0	0	0	0	28	0	0	0	0	2	0	0	130	17	0	3	72.22%
pred.ISFJ	1	0	0	0	1	0	0	0	0	19	0	0	4	78	3	0	73.58%
pred.ISTJ	0	0	1	0	0	0	0	0	6	1	0	2	0	1	54	9	72.97%
pred.ESTJ	0	0	0	0	0	0	1	0	1	0	0	12	6	0	9	94	76.42%
class rec...	92.94%	74.76%	92.98%	88.94%	86.87%	87.55%	86.30%	73.08%	89.24%	89.38%	92.09%	88.14%	78.31%	70.27%	68.35%	79.66%	

Random Forest

Accuracy : 90.01%

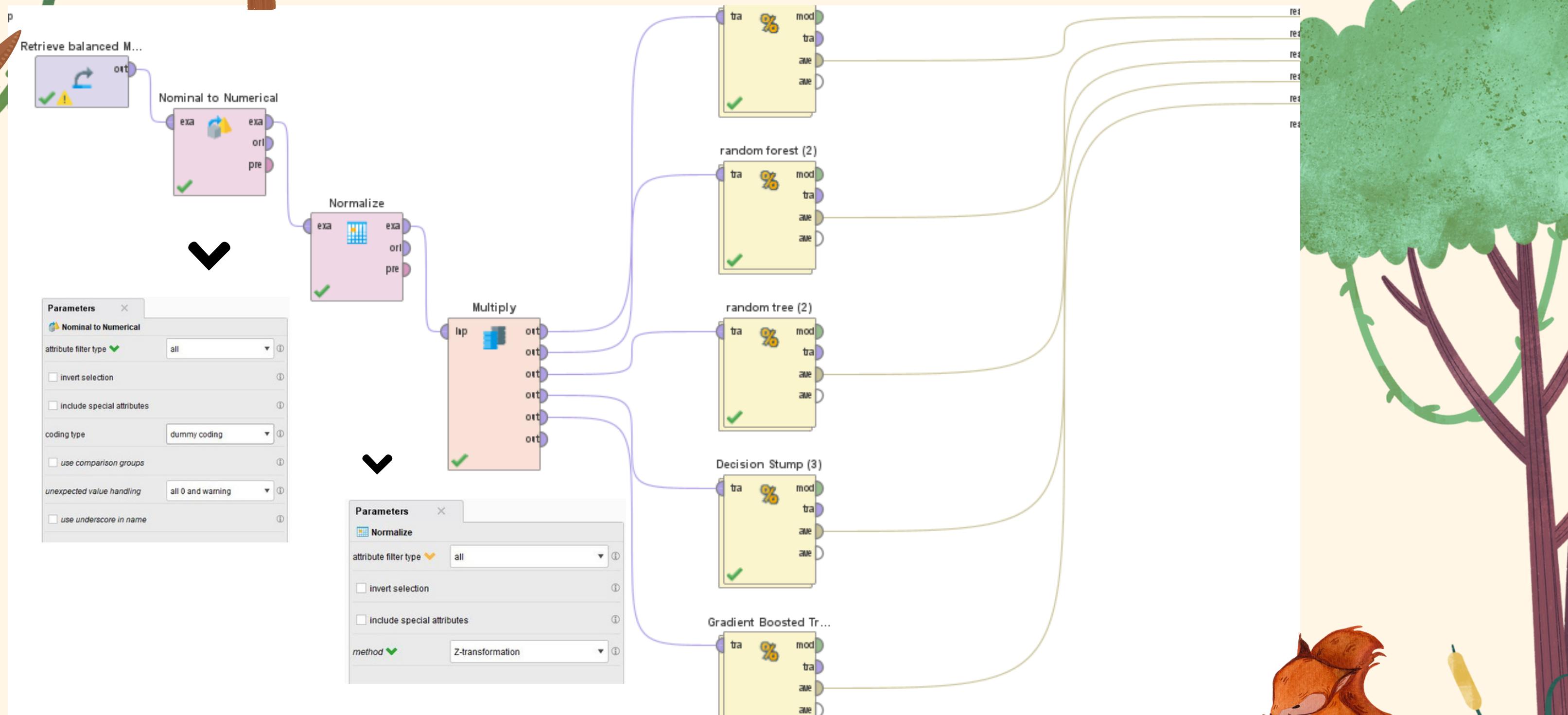
	true ENFP	true ESFP	true INTP	true INFJ	true ENFJ	true ENTP	true ESTP	true ISTP	true INTJ	true INFJ	true ISFP	true ENTJ	true ESFJ	true ISFJ	true ISTJ	true ESTJ	class pre...		
pred.EN...	9692	209	1	613	23	14	1	0	0	7	12	0	2	1	0	0	91.65%		
pred.ES...	61	1148	0	7	1	2	3	0	0	0	65	0	11	3	0	0	88.24%		
pred.INTP	0	0	4635	0	0	465	13	95	6	0	0	24	126	0	0	4	88.86%		
pred.INFP	562	9	50	6699	2	12	1	0	0	24	126	0	0	4	0	0	89.45%		
pred.EN...	0	0	0	0	1056	0	0	0	1	70	0	0	15	1	0	0	92.39%		
pred.EN...	0	0	385	0	0	6849	118	5	6	0	0	81	0	0	0	1	91.99%		
pred.ES...	0	1	5	0	0	60	814	39	0	0	0	1	0	0	0	14	87.15%		
pred.ISTP	0	0	63	2	0	13	50	564	1	0	0	0	0	5	0	0	80.80%		
pred.INTJ	0	0	0	0	0	0	0	0	1	507	0	0	49	0	0	8	0	89.73%	
pred.INFJ	0	0	0	1	60	0	0	0	4	764	0	2	2	11	0	0	90.52%		
pred.ISFP	6	82	1	91	0	0	0	12	0	0	834	0	0	14	0	0	80.19%		
pred.EN...	0	0	0	0	0	0	0	42	0	0	682	0	0	1	3	92.68%			
pred.ESFJ	0	0	0	0	22	0	0	0	0	0	0	0	132	17	0	2	76.30%		
pred.ISFJ	0	1	0	0	1	0	0	0	0	11	0	0	4	60	4	0	74.07%		
pred.ISTJ	0	0	0	0	0	0	0	0	1	7	0	0	1	0	0	53	6	77.94%	
pred.ESTJ	0	0	0	0	0	0	0	0	0	0	0	0	0	17	0	0	8	92	77.31%
class rec...	93.91%	79.17%	90.18%	90.37%	90.64%	92.37%	81.40%	78.66%	88.02%	87.21%	80.42%	81.68%	79.52%	54.05%	67.09%	77.97%			

Gradient Boosted Tree

Accuracy : 90.37%

	true ENFP	true ESFP	true INTP	true INFJ	true ENFJ	true ENTP	true ESTP	true ISTP	true INTJ	true INFJ	true ISFP	true ENTJ	true ESFJ	true ISFJ	true ISTJ	true ESTJ	class pre...
pred.EN...	9615	177	0	554	37	3	0	0	0	1	9	0	2	1	0	0	92.46%
pred.ES...	109	1185	0	15	0	0	0	0	1	59	0	12	1	0	0	0	85.75%
pred.INTP	1	0	4668	5	0	431	9	88	23	0	4	5	0	0	0	0	89.19%
pred.INFP	584	14	14	6741	2	0	0	0	0	27	120	0	0	0	0	0	89.88%
pred.EN...	4	0	0	0	1028	0	0	0	0	58	0	0	12	2	0	0	93.12%
pred.EN...	0	0	389	1	0	6898	126	11	6	0	0	27	0	0	0	1	92.48%
pred.ES...	0	0	3	0	0	68	816	38	0	0	0	1	0	0	0	9	87.27%
pred.ISTP	0	2	61	0	0	13	49	567	0	0	2	0	0	0	4	0	81.23%
pred.INTJ	0	0	3	0	0	0	0	0	492	1	0	44	0	0	6	0	90.11%
pred.INFJ	0	0	0	5	76	0	0	0	7	773	0	1	2	9	0	0	88.55%
pred.ISFP	7	72	1	92	0	1	0	13	0	0	0	843	0	0	10	0	81.14%
pred.EN...	0	0	1	0	1	0	0	41	0	0	743	0	0	3	9	0	92.99%
pred.ESFJ	0	0	0	0	19	0	0	0	0	0	0	0	132	15	0	3	78.11%
pred.ISFJ	0	0	0	0	2	0	0	0	1	13	0	0	5	72	2	0	75.79%
pred.ISTJ</td																	

Balance Data



Original Data

Personality	Age	Gender	Education	Introversion ...	Sensing Sco...	Thinking Sc...	Judging Sco...	Interest
ENFP	19	Male	0	9.471	7.141	6.037	4.360	Unknown
ESFP	27	Female	0	5.854	6.160	0.806	4.221	Sports
ENFP	21	Female	0	7.086	3.388	2.662	5.127	Unknown
INTP	28	Male	0	2.019	4.824	7.306	5.987	Others
ENFP	36	Female	1	9.917	4.755	5.315	4.677	Technology
ENFP	25	Male	0	7.663	5.758	1.970	4.564	Others
INFP	26	Female	1	2.732	5.899	3.648	5.801	Unknown
ENFJ	27	Female	0	5.250	5.963	1.162	5.873	Sports
ENTP	29	Male	0	8.860	3.682	7.785	1.641	Others



Normalize

Personality	Gender = Fe...	Gender = M...	Interest = S...	Interest = Ot...	Interest = U...	Interest = Arts	Interest = T...	Age	Education	Introversion...	Sensing Sco...	Thinking Sc.
ESFP	1.109	-1.109	2.325	-0.429	-0.748	-0.484	-0.403	-0.072	-0.547	0.435	0.324	-1.608
INTP	-0.901	0.901	-0.430	2.329	-0.748	-0.484	-0.403	0.151	-0.547	-0.902	-0.792	0.656
ENFP	-0.901	0.901	-0.430	2.329	-0.748	-0.484	-0.403	-0.518	-0.547	1.066	-0.012	-1.202
INFP	1.109	-1.109	-0.430	-0.429	1.337	-0.484	-0.403	-0.295	1.829	-0.653	0.106	-0.618
ENFJ	1.109	-1.109	2.325	-0.429	-0.748	-0.484	-0.403	-0.072	-0.547	0.224	0.159	-1.484
ENTP	1.109	-1.109	-0.430	-0.429	-0.748	2.067	-0.403	0.374	1.829	1.076	-1.314	1.325
ENFP	-0.901	0.901	-0.430	2.329	-0.748	-0.484	-0.403	-1.411	1.829	0.830	-0.216	-0.496
ENFP	-0.901	0.901	-0.430	-0.429	1.337	-0.484	-0.403	-0.965	1.829	0.145	-0.806	-0.351
ESTP	1.109	-1.109	-0.430	-0.429	1.337	-0.484	-0.403	1.490	-0.547	-0.569	0.658	0.903
ENFP	-0.901	0.901	-0.430	2.329	-0.748	-0.484	-0.403	-1.188	-0.547	0.072	0.372	-0.156
INFP	-0.901	0.901	-0.430	-0.429	-0.748	-0.484	2.482	1.713	1.829	-0.351	-1.563	-1.629
INFP	-0.901	0.901	-0.430	-0.429	1.337	-0.484	-0.403	-0.518	1.829	-0.247	-0.583	-0.760
ENFP	1.109	-1.109	-0.430	-0.429	1.337	-0.484	-0.403	-1.411	-0.547	1.298	-0.469	-1.885
INFP	1.109	-1.109	2.325	-0.429	-0.748	-0.484	-0.403	-0.518	1.829	-0.799	-1.959	-0.745
INFP	-0.901	0.901	-0.430	-0.429	1.337	-0.484	-0.403	-0.072	-0.547	-1.173	-0.932	-0.332
INTP	-0.901	0.901	-0.430	-0.429	-0.748	2.067	-0.403	0.151	-0.547	-0.317	-0.036	1.072

Decision Tree

Accuracy : 89.54%

	true ESFP	true INTP	true ENFP	true INFJ	true ENTP	true ESTP	true ISTP	true INTJ	true INFJ	true ISFP	true ENTJ	true ESFJ	true ISFJ	true ISTJ	true ESTJ	class pre...	
pred.ES...	2183	0	81	7	0	2	20	2	0	0	135	0	3	0	0	89.72%	
pred.INTP	0	2195	2	7	0	270	8	25	3	0	5	0	0	0	0	87.28%	
pred.EN...	36	0	2165	211	0	14	0	0	0	0	2	0	0	0	0	89.17%	
pred.INFP	2	8	135	2094	1	3	0	0	0	1	23	1	0	0	1	92.29%	
pred.EN...	0	0	1	0	2195	2	0	0	0	202	0	12	17	4	0	90.18%	
pred.EN...	0	138	9	5	0	2036	36	6	0	1	0	0	0	0	0	91.26%	
pred.ES...	3	3	0	0	0	68	2147	102	0	0	0	0	0	0	0	92.42%	
pred.ISTP	1	45	0	0	0	3	165	1971	0	0	37	0	0	0	8	88.39%	
pred.INTJ	0	1	0	0	1	0	0	0	2204	3	0	0	1	0	0	92.29%	
pred.INFJ	0	0	0	1	119	0	0	0	4	2122	0	3	0	10	1	93.89%	
pred.ISFP	175	0	8	76	0	0	4	36	0	0	2182	0	1	4	0	0	87.77%
pred.EN...	0	0	0	0	5	0	0	0	118	1	0	2140	1	0	0	12	93.98%
pred.ESFJ	0	0	0	0	68	0	1	0	0	6	1	1	2106	83	0	11	92.49%
pred.ISFJ	0	0	0	0	3	0	0	0	1	43	0	0	224	2105	2	0	88.52%
pred.ISTJ	1	11	0	0	1	3	20	259	68	21	16	9	0	193	2369	192	74.90%
pred.ESTJ	0	0	0	0	8	0	0	0	3	1	0	57	49	2	19	2185	94.02%
class rec...	90.92%	91.42%	90.17%	87.21%	91.42%	84.80%	89.42%	82.09%	91.80%	88.38%	90.88%	89.13%	87.71%	87.67%	98.67%	91.00%	

Random Forest

Accuracy : 90.76%

	true ESFP	true INTP	true ENFP	true INFJ	true ENTP	true ESTP	true ISTP	true INTJ	true INFJ	true ISFP	true ENTJ	true ESFJ	true ISFJ	true ISTJ	true ESTJ	class pre...	
pred.ES...	2137	0	95	7	0	5	57	0	0	0	93	0	4	0	0	89.12%	
pred.INTP	0	2218	1	0	0	257	4	20	1	0	2	0	0	0	0	88.61%	
pred.EN...	14	0	2095	137	0	10	0	0	0	0	1	9	0	0	0	92.86%	
pred.INFP	1	5	191	2167	1	2	0	0	0	0	1	9	0	0	0	91.17%	
pred.EN...	0	0	1	0	2138	0	0	0	0	0	127	0	1	6	1	94.02%	
pred.EN...	0	114	6	0	0	2036	13	0	0	0	0	0	1	0	0	93.82%	
pred.ES...	3	1	0	0	0	86	2115	73	0	0	0	0	0	0	1	92.80%	
pred.ISTP	0	55	0	0	0	4	194	2205	0	0	14	0	0	0	5	89.02%	
pred.INTJ	0	2	0	0	0	0	0	0	2204	2	0	186	0	0	3	0	91.95%
pred.INFJ	0	0	0	1	167	0	0	0	4	2184	0	1	0	1	0	92.62%	
pred.ISFP	246	1	12	89	0	0	7	35	0	0	2280	0	1	4	0	85.23%	
pred.EN...	0	1	0	0	0	0	0	119	1	0	2135	0	0	0	7	94.34%	
pred.ESFJ	0	0	0	0	84	0	0	0	8	0	0	2183	106	0	15	91.11%	
pred.ISFJ	0	0	0	0	7	0	0	0	1	70	1	0	195	2244	32	0	88.00%
pred.ISTJ	0	4	0	0	0	1	11	68	68	7	2	6	0	41	2288	142	86.73%
pred.ESTJ	0	0	0	0	4	0	0	0	4	1	0	71	12	4	73	2236	92.97%
class rec...	89.00%	92.38%	87.26%	90.25%	89.05%	84.80%	88.09%	91.84%	91.80%	90.96%	94.96%	88.92%	90.92%	93.46%	95.29%	93.13%	

Gradient Boosted Tree

Accuracy : 91.22%

	true ESFP	true INTP	true ENFP	true INFJ	true ENTP	true ESTP	true ISTP	true INTJ	true INFJ	true ISFP	true ENTJ	true ESFJ	true ISFJ	true ISTJ	true ESTJ	class pre...
pred.ES...	2188	0	81	8	0	3	13	0	0	133	0	9	0	0	0	89.86%
pred.INTP	0	2146	2	4	0	176	3	28	4	1	1	1	0	1	0	90.66%
pred.EN...	32	0	2144	167	2	15	1	0	0	4	1	0	1	0	0	90.58%
pred.INFP	3	8	151	2132	2	3	0	0	0	1	14	0	0	0	0	92.13%
pred.EN...	0	0	2178	0	0	0	0	169	0	2	13	3	0	2	0	91.82%
pred.EN...	0	168	8	0	0	2115	22	0	0	0	0	5	0	0	0	91.24%
pred.ES...	1	2	0	0	73	2137	80	0	0	0	0	0	0	1	3	93.03%
pred.ISTP	1	56	0	1	6	216	2268	0	0	28	1	0	0	0	0	88.01%
pred.INTJ	0	18	0	1	1	0	0	2161	11	1	146	0	0	9	1	92.00%
pred.INFJ	1	0	0	4	124	0	0	0	5	2147	0	1	0	8	0	93.76%
pred.ISFP	165	1	9	83	0	0	3	21	0	0	2214	0	1	4	0	88.52%
pred.EN...	0	2	0	4	8	2	0	160	2	0	2174	0	0	3	10	91.92%
pred.ESFJ	10	0	1	2	81	0	0	0	9	0	1	2255	140	0	11	89.84%
pred.ISFJ	0	0	0	6	0	0	0	1	55	9	0	104	2231	48	11	90.51%
pred.ISTJ	0	0	0	0	0	1	4	67	2	0	9	0	12	2295	104	92.02%
pred.ESTJ	0	0	0	3	1	3	0	0	61	18	3	44	0	2259</		

Before

Gradient boosted tree

Accuracy : 90.36%

Random Forest

Accuracy : 89.97%

Decision Tree

Accuracy : 88.96%

Decision Stump

Accuracy : 43.32%

Random Tree

Accuracy : 42.32%

After

Gradient boosted tree

Accuracy : 90.37%

Random Forest

Accuracy : 90.01%

Decision Tree

Accuracy : 89.23%

Decision Stump

Accuracy : 42.85%

Random Tree

Accuracy : 26.86%

After Balance

Gradient boosted tree

Accuracy : 91.22%

Random Forest

Accuracy : 90.76%

Decision Tree

Accuracy : 89.54%

Decision Stump

Accuracy : 12.10%

Random Tree

Accuracy : 6.25%

Accuracy Comparison

1

AutoMLP

มีค่า Accuracy อยู่ที่ 91.52%

2

Gradient boosted tree

มีค่า Accuracy อยู่ที่ 91.22%

3

Neural Net

มีค่า Accuracy อยู่ที่ 91.21%

4

Random Forest

มีค่า Accuracy อยู่ที่ 90.76 %

5

Deep Learning

มีค่า Accuracy อยู่ที่ 90.27%

6

Decision Tree

มีค่า Accuracy อยู่ที่ 89.54%

7

K-NN

มีค่า Accuracy อยู่ที่ 85.23 %

8

Decision Stump

มีค่า Accuracy อยู่ที่ 42.85%

9

Random Tree

มีค่า Accuracy อยู่ที่ 42.32%

