

19BCE245_DL_Prac1_v3 | Kaggle

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19BCE245_DL_Prac1_v3

Python · Titanic - Machine Learning from Disaster

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Competition Notebook
Titanic - Machine Learning from Disaster Run 151.8s Best Score 0.78229 V1 Version 2 of 2

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Importing libraries

In [1]:

```
import math
import numpy as np
import pandas as pd
```

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DL Practical 1

19BCE245 - Aayush Shah

Importing libraries

In [1]:

```
import math
import numpy as np
import pandas as pd
import seaborn as sns
import statistics as stats
import matplotlib.pyplot as plt
import tensorflow as tf
```

Importing dataset

In [2]:

```
train_dataset = pd.read_csv('../input/titanic/train.csv')
# train_dataset = pd.read_csv('train.csv')
# print('for TRAINING SET : \n',train_dataset)
train_dataset.head(10)
```

Out [2]:

	PassengerId	Survived	Pclass	Name	Sex	Age	SibSp	Parch	Ticket	Fare	Cabin	Embarked
0	1	0	3	Braund, Mr. Owen Harris	male	22.0	1	0	A/5 21171	7.2500	NaN	S
1	2	1	1	Cumings, Mrs. John Bradley (Florence Briggs Th... Heikkinen, Miss. Laina	female	38.0	1	0	PC 17599	71.2833	C85	C
2	3	1	3	Heikkinen, Miss. Laina	female	26.0	0	0	STON/O2. 3101282	7.9250	NaN	S
3	4	1	1	Futrelle, Mrs. Jacques Heath (Lily May Peel)	female	35.0	1	0	113803	53.1000	C123	S
4	5	0	3	Allen, Mr. William Henry	male	35.0	0	0	373450	8.0500	NaN	S
5	6	0	3	Moran, Mr. James	male	NaN	0	0	330877	8.4583	NaN	Q
6	7	0	1	McCarthy, Mr. Timothy J	male	54.0	0	0	17463	51.8625	E46	S
7	8	0	3	Palsson, Master. Gosta Leonard	male	2.0	3	1	349909	21.0750	NaN	S
8	9	1	3	Johnson, Mrs. Oscar W (Elisabeth Vilhelmina Berg)	female	27.0	0	2	347742	11.1333	NaN	S
9	10	1	2	Nasser, Mrs. Nicholas (Adele Achem)	female	14.0	1	0	237736	30.0708	NaN	C

In [3]:

```
# test_dataset = pd.read_csv('test.csv')
# test_dataset = pd.read_csv('../input/titanic/test.csv')
# print('for TESTING SET : \n',test_dataset)
```

```
# test_dataset = pd.concat([pd.read_csv('gender_submission.csv'), 'test.csv']), ignore_index=True)

test_dataset_X = pd.read_csv('../input/titanic/test.csv')
test_dataset_y = pd.read_csv('../input/titanic/gender_submission.csv')
test_dataset = pd.merge(test_dataset_y, test_dataset_X, on='PassengerId', how='inner')
test_dataset.head(10)
# print(len(test_dataset.values))
```

Out [3] :

	PassengerId	Survived	Pclass	Name	Sex	Age	SibSp	Parch	Ticket	Fare	Cabin	Embarked
0	892	0	3	Kelly, Mr. James	male	34.5	0	0	330911	7.8292	NaN	Q
1	893	1	3	Wilkes, Mrs. James (Ellen Needs)	female	47.0	1	0	363272	7.0000	NaN	S
2	894	0	2	Myles, Mr. Thomas Francis	male	62.0	0	0	240276	9.6875	NaN	Q
3	895	0	3	Wirz, Mr. Albert	male	27.0	0	0	315154	8.6625	NaN	S
4	896	1	3	Hirvonen, Mrs. Alexander (Helga E Lindqvist)	female	22.0	1	1	3101298	12.2875	NaN	S
5	897	0	3	Svensson, Mr. Johan Cervin	male	14.0	0	0	7538	9.2250	NaN	S
6	898	1	3	Connolly, Miss. Kate	female	30.0	0	0	330972	7.6292	NaN	Q
7	899	0	2	Caldwell, Mr. Albert Francis	male	26.0	1	1	248738	29.0000	NaN	S
8	900	1	3	Abrahim, Mrs. Joseph (Sophie Halaut Easu)	female	18.0	0	0	2657	7.2292	NaN	C
9	901	0	3	Davies, Mr. John Samuel	male	21.0	2	0	A/4 48871	24.1500	NaN	S

Preprocessing

In [4] :

```
# # Checking `null` values in dataset ; finding null values in columns
print('for TRAINING SET : \n',train_dataset.isnull().sum())
print('\nfor TESTING SET : \n',test_dataset.isnull().sum())
```

```
for TRAINING SET :
  PassengerId      0
  Survived         0
  Pclass            0
  Name              0
  Sex               0
  Age             177
  SibSp             0
  Parch             0
  Ticket            0
  Fare              0
  Cabin            687
  Embarked          2
  dtype: int64
```

```
for TESTING SET :
  PassengerId      0
  Survived         0
  Pclass            0
  Name              0
  Sex               0
  Age             86
  SibSp             0
  Parch             0
```

```
Ticket      0  
Fare       1  
Cabin     327  
Embarked    0  
dtype: int64
```

Missing values found :

- **training set : age, embarked**
- **testing set : age, cabin**

Filling missing values

- **Age :**

In [5]:

```
train_dataset['Age'].fillna(train_dataset['Age'].mean(), inplace=True)  
print('for TRAINING SET :\n', train_dataset.isnull().sum())  
test_dataset['Age'].fillna(train_dataset['Age'].mean(), inplace=True)  
print('for TRAINING SET :\n', test_dataset.isnull().sum())
```

```
for TRAINING SET :  
  PassengerId      0  
  Survived         0  
  Pclass           0  
  Name             0  
  Sex              0  
  Age              0  
  SibSp            0  
  Parch            0  
  Ticket           0  
  Fare             0  
  Cabin           687  
  Embarked         2  
  dtype: int64  
for TRAINING SET :  
  PassengerId      0  
  Survived         0  
  Pclass           0  
  Name             0  
  Sex              0  
  Age              0  
  SibSp            0  
  Parch            0  
  Ticket           0  
  Fare             1  
  Cabin           327  
  Embarked         0  
  dtype: int64
```

- **Embarked :**

In [6]:

```
train_dataset['Embarked'].fillna(train_dataset['Embarked'].mode()[0], inplace=True)  
print('for TRAINING SET :\n', train_dataset.isnull().sum())
```

```
for TRAINING SET :  
  PassengerId      0  
  Survived         0  
  Pclass           0  
  Name             0  
  Sex              0  
  Age              0  
  SibSp            0
```

```
~~~  
Parch          0  
Ticket         0  
Fare           0  
Cabin          687  
Embarked       0  
dtype: int64
```

- Fare :

In [7]:

```
test_dataset['Fare'].fillna(train_dataset['Fare'].mean(), inplace=True)  
print('for TRAINING SET : \n', test_dataset.isnull().sum())
```

```
for TRAINING SET :  
  PassengerId      0  
  Survived         0  
  Pclass           0  
  Name             0  
  Sex              0  
  Age              0  
  SibSp            0  
  Parch            0  
  Ticket           0  
  Fare             0  
  Cabin            327  
  Embarked         0  
  dtype: int64
```

considering only : PClass, Sex, Age, SibSp, Parch, Fare, Embarked

In [8]:

```
X_train = train_dataset.iloc[:,[2,4,5,6,7,9,11]].values  
# X_train = train_dataset.iloc[:,[2,4,5,6,7,9,11]]  
X_test = test_dataset.iloc[:,[2,4,5,6,7,9,11]].values  
# X_test = test_dataset.iloc[:,[1,3,4,5,6,8,10]]  
y_train = train_dataset.iloc[:,1].values  
# y = train_dataset.iloc[:,1]  
y_test = test_dataset.iloc[:,1].values
```

In [9]:

```
X_train
```

Out[9]:

```
array([[3, 'male', 22.0, ..., 0, 7.25, 'S'],  
       [1, 'female', 38.0, ..., 0, 71.2833, 'C'],  
       [3, 'female', 26.0, ..., 0, 7.925, 'S'],  
       ...,  
       [3, 'female', 29.69911764705882, ..., 2, 23.45, 'S'],  
       [1, 'male', 26.0, ..., 0, 30.0, 'C'],  
       [3, 'male', 32.0, ..., 0, 7.75, 'Q']], dtype=object)
```

In [10]:

```
X_test
```

Out[10]:

```
array([[3, 'male', 34.5, ..., 0, 7.8292, 'Q'],  
       [3, 'female', 47.0, ..., 0, 7.0, 'S'],  
       [2, 'male', 62.0, ..., 0, 9.6875, 'Q'],  
       ...,  
       [3, 'male', 38.5, ..., 0, 7.25, 'S'],  
       [3, 'male', 29.699117647058763, ..., 0, 8.05, 'S'],  
       ...], dtype=object)
```

```
[3, 'male', 29.699911/64/058/63, ...], 1, 22.3583, 'C'],  
dtype=object)
```

In [11]:

y train

Out [11] :

In [12]:

y test

Out [12] :

In [13]:

```
# before encoding :
print(X_train[0])
print(y_train[0])
print(X_test[0])
print(y_test[0])
```

```
[3] 'male' 22.0 1 0 7.25 'S'  
0  
[3] 'male' 34.5 0 0 7.8292 'Q'  
0
```

Encoding categorical data

- **encoding** gender :

In [14]:

```
from sklearn.preprocessing import LabelEncoder  
le = LabelEncoder()  
X_train[:, 1] = le.fit_transform(X_train[:, 1])  
X_test[:, 1] = le.fit_transform(X_test[:, 1])
```

In [15]:

```
# after encoding gender :  
print(X_train[0])  
print(y_train[0])  
print(X_test[0])  
print(y_test[0])
```

```
[3 1 22.0 1 0 7.25 'S']  
0  
[3 1 34.5 0 0 7.8292 'Q']  
0
```

- **encoding** Embarked

In [16]:

```
from sklearn.preprocessing import OneHotEncoder
from sklearn.compose import ColumnTransformer

ct = ColumnTransformer(transformers=[('encoder', OneHotEncoder(), [6])], remainder='pass
through')
X_train = np.array(ct.fit_transform(X_train))
X_test = np.array(ct.fit_transform(X_test))
```

In [17]:

```
# after encoding embarked
print(X_train[0])
print(y_train[0])
print(X_test[0])
print(y_test[0])
```

```
[0.0 0.0 1.0 3 1 22.0 1 0 7.25]  
0  
[0.0 1.0 0.0 3 1 34.5 0 0 7.8292]  
0
```

Feature Scaling

In [18]:

```
from sklearn.preprocessing import StandardScaler
sc = StandardScaler()
X_train = sc.fit_transform(X_train)
X_test = sc.transform(X_test) # only transforming to avoid Information Leakage
```

Building the ANN

1. Initializing ANN

In [19]:

```
ann = tf.keras.models.Sequential()
```

User settings:

```
KMP_AFFINITY=granularity=fine,noverbose,compact,1,0
KMP_BLOCKTIME=0
KMP_DUPLICATE_LIB_OK=True
KMP_INIT_AT_FORK=False
KMP_SETTINGS=1
KMP_WARNINGS=0
```

Effective settings:

```
KMP_ABORT_DELAY=0
KMP_ADAPTIVE_LOCK_PROPS='1,1024'
KMP_ALIGN_ALLOC=64
KMP_ALL_THREADPRIVATE=128
KMP_ATOMIC_MODE=2
KMP_BLOCKTIME=0
KMP_CPUINFO_FILE: value is not defined
KMP_DETERMINISTIC_REDUCTION=false
KMP_DEVICE_THREAD_LIMIT=2147483647
KMP_DISP_NUM_BUFFERS=7
KMP_DUPLICATE_LIB_OK=true
KMP_ENABLE_TASK_THROTTLING=true
KMP_FORCE_REDUCTION: value is not defined
KMP_FOREIGN_THREADS_THREADPRIVATE=true
KMP_FORKJOIN_BARRIER='2,2'
KMP_FORKJOIN_BARRIER_PATTERN='hyper,hyper'
KMP_GTID_MODE=3
KMP_HANDLE_SIGNALS=false
KMP_HOT_TEAMS_MAX_LEVEL=1
KMP_HOT_TEAMS_MODE=0
KMP_INIT_AT_FORK=true
KMP_LIBRARY=throughput
KMP_LOCK_KIND=queuing
KMP_MALLOC_POOL_INCR=1M
KMP_NUM_LOCKS_IN_BLOCK=1
KMP_PLAIN_BARRIER='2,2'
KMP_PLAIN_BARRIER_PATTERN='hyper,hyper'
KMP_REDUCTION_BARRIER='1,1'
KMP_REDUCTION_BARRIER_PATTERN='hyper,hyper'
KMP_SCHEDULE='static,balanced,guided,iterative'
KMP_SETTINGS=true
KMP_SPIN_BACKOFF_PARAMS='4096,100'
KMP_STACKOFFSET=64
KMP_STACKPAD=0
KMP_STACKSIZE=8M
KMP_STORAGE_MAP=false
KMP_TASKING=2
KMP_TASKLOOP_MIN_TASKS=0
KMP_TASK_STEALING_CONSTRAINT=1
KMP_TEAMS_THREAD_LIMIT=4
```

```
KMP_TOPOLOGY_METHOD=all
KMP_USE_YIELD=1
KMP_VERSION=false
KMP_WARNINGS=false
OMP_AFFINITY_FORMAT='OMP: pid %P tid %i thread %n bound to OS proc set {%A}'
OMP_ALLOCATOR=omp_default_mem_alloc
OMP_CANCELLATION=false
OMP_DEFAULT_DEVICE=0
OMP_DISPLAY_AFFINITY=false
OMP_DISPLAY_ENV=false
OMP_DYNAMIC=false
OMP_MAX_ACTIVE_LEVELS=1
OMP_MAX_TASK_PRIORITY=0
OMP_NESTED: deprecated; max-active-levels-var=1
OMP_NUM_THREADS: value is not defined
OMP_PLACES: value is not defined
OMP_PROC_BIND='intel'
OMP_SCHEDULE='static'
OMP_STACKSIZE=8M
OMP_TARGET_OFFLOAD=DEFAULT
OMP_THREAD_LIMIT=2147483647
OMP_WAIT_POLICY=PASSIVE
KMP_AFFINITY='noverbose,warnings,respect,granularity=fine,compact,1,0'
```

```
2022-02-02 19:07:04.901587: I tensorflow/core/common_runtime/process_util.cc:146] Creating new thread pool with default inter op setting: 2. Tune using inter_op_parallelism_threads for best performance.
```

2. Adding the input layer and the first hidden layer

- `units` : number of neurons in the layer
- `relu` : rectifier linear unit

In [20]:

```
ann.add(tf.keras.layers.Dense(units=6, activation='relu'))
```

3. Adding the second hidden layer

In [21]:

```
ann.add(tf.keras.layers.Dense(units=6, activation='relu'))
```

4. Adding the output layer

- as dimension of the output is 1 (*whether person is survived or not*)
- choosing sigmoid activation as we have binary classification

In [22]:

```
ann.add(tf.keras.layers.Dense(units=1, activation='sigmoid'))
```

Training the ANN

1. compiling the ANN

- here we are Updating weights and reducing cost.
- `optimizer` : gradient descent method. Here we are choosing adam as one of the method.
- `loss` : as we are doing binary classification, we'll use `binary_crossentropy` which will apply CROSS ENTROPY eq. For non-binary classification use `categorical_crossentropy` as loss function and softmax as activation function above

activation function above.

- **metrics** : choosing accuracy. although we can also choose multiple metrics.

In [23]:

```
ann.compile(optimizer='adam', loss='binary_crossentropy', metrics=['accuracy'])
```

2. Training the ANN on the training set

In [24]:

```
ann.fit(X_train, y_train, batch_size=32, epochs=100)
```

```
2022-02-02 19:07:07.086352: I tensorflow/compiler/mlir/mlir_graph_optimization_pass.cc:18  
5] None of the MLIR Optimization Passes are enabled (registered 2)
```

```
Epoch 1/100  
28/28 [=====] - 1s 3ms/step - loss: 0.6826 - accuracy: 0.6274  
Epoch 2/100  
28/28 [=====] - 0s 3ms/step - loss: 0.6625 - accuracy: 0.6633  
Epoch 3/100  
28/28 [=====] - 0s 3ms/step - loss: 0.6416 - accuracy: 0.6745  
Epoch 4/100  
28/28 [=====] - 0s 3ms/step - loss: 0.6187 - accuracy: 0.6813  
Epoch 5/100  
28/28 [=====] - 0s 3ms/step - loss: 0.5976 - accuracy: 0.6970  
Epoch 6/100  
28/28 [=====] - 0s 3ms/step - loss: 0.5768 - accuracy: 0.7048  
Epoch 7/100  
28/28 [=====] - 0s 3ms/step - loss: 0.5567 - accuracy: 0.7172  
Epoch 8/100  
28/28 [=====] - 0s 3ms/step - loss: 0.5378 - accuracy: 0.7441  
Epoch 9/100  
28/28 [=====] - 0s 3ms/step - loss: 0.5200 - accuracy: 0.7609  
Epoch 10/100  
28/28 [=====] - 0s 2ms/step - loss: 0.5054 - accuracy: 0.7677  
Epoch 11/100  
28/28 [=====] - 0s 2ms/step - loss: 0.4915 - accuracy: 0.7755  
Epoch 12/100  
28/28 [=====] - 0s 2ms/step - loss: 0.4812 - accuracy: 0.7823  
Epoch 13/100  
28/28 [=====] - 0s 2ms/step - loss: 0.4719 - accuracy: 0.7823  
Epoch 14/100  
28/28 [=====] - 0s 2ms/step - loss: 0.4643 - accuracy: 0.7890  
Epoch 15/100  
28/28 [=====] - 0s 2ms/step - loss: 0.4578 - accuracy: 0.7924  
Epoch 16/100  
28/28 [=====] - 0s 2ms/step - loss: 0.4521 - accuracy: 0.8013  
Epoch 17/100  
28/28 [=====] - 0s 2ms/step - loss: 0.4476 - accuracy: 0.8025  
Epoch 18/100  
28/28 [=====] - 0s 2ms/step - loss: 0.4440 - accuracy: 0.8025  
Epoch 19/100  
28/28 [=====] - 0s 3ms/step - loss: 0.4412 - accuracy: 0.8013  
Epoch 20/100  
28/28 [=====] - 0s 2ms/step - loss: 0.4387 - accuracy: 0.8025  
Epoch 21/100  
28/28 [=====] - 0s 2ms/step - loss: 0.4369 - accuracy: 0.8013  
Epoch 22/100  
28/28 [=====] - 0s 2ms/step - loss: 0.4353 - accuracy: 0.7991  
Epoch 23/100  
28/28 [=====] - 0s 2ms/step - loss: 0.4338 - accuracy: 0.8047  
Epoch 24/100  
28/28 [=====] - 0s 2ms/step - loss: 0.4319 - accuracy: 0.8058  
Epoch 25/100  
28/28 [=====] - 0s 3ms/step - loss: 0.4305 - accuracy: 0.8002  
Epoch 26/100  
28/28 [=====] - 0s 3ms/step - loss: 0.4292 - accuracy: 0.8013  
Epoch 27/100  
28/28 [=====] - 0s 2ms/step - loss: 0.4280 - accuracy: 0.8025
```

Epoch 28/100
28/28 [=====] - 0s 2ms/step - loss: 0.4274 - accuracy: 0.8013
Epoch 29/100
28/28 [=====] - 0s 2ms/step - loss: 0.4258 - accuracy: 0.8036
Epoch 30/100
28/28 [=====] - 0s 2ms/step - loss: 0.4251 - accuracy: 0.8070
Epoch 31/100
28/28 [=====] - 0s 3ms/step - loss: 0.4238 - accuracy: 0.8081
Epoch 32/100
28/28 [=====] - 0s 2ms/step - loss: 0.4230 - accuracy: 0.8092
Epoch 33/100
28/28 [=====] - 0s 2ms/step - loss: 0.4221 - accuracy: 0.8092
Epoch 34/100
28/28 [=====] - 0s 2ms/step - loss: 0.4213 - accuracy: 0.8081
Epoch 35/100
28/28 [=====] - 0s 2ms/step - loss: 0.4209 - accuracy: 0.8103
Epoch 36/100
28/28 [=====] - 0s 2ms/step - loss: 0.4198 - accuracy: 0.8114
Epoch 37/100
28/28 [=====] - 0s 2ms/step - loss: 0.4194 - accuracy: 0.8092
Epoch 38/100
28/28 [=====] - 0s 3ms/step - loss: 0.4186 - accuracy: 0.8092
Epoch 39/100
28/28 [=====] - 0s 2ms/step - loss: 0.4180 - accuracy: 0.8126
Epoch 40/100
28/28 [=====] - 0s 2ms/step - loss: 0.4172 - accuracy: 0.8114
Epoch 41/100
28/28 [=====] - 0s 2ms/step - loss: 0.4171 - accuracy: 0.8126
Epoch 42/100
28/28 [=====] - 0s 2ms/step - loss: 0.4161 - accuracy: 0.8114
Epoch 43/100
28/28 [=====] - 0s 2ms/step - loss: 0.4155 - accuracy: 0.8148
Epoch 44/100
28/28 [=====] - 0s 2ms/step - loss: 0.4154 - accuracy: 0.8126
Epoch 45/100
28/28 [=====] - 0s 2ms/step - loss: 0.4145 - accuracy: 0.8148
Epoch 46/100
28/28 [=====] - 0s 2ms/step - loss: 0.4143 - accuracy: 0.8137
Epoch 47/100
28/28 [=====] - 0s 2ms/step - loss: 0.4137 - accuracy: 0.8171
Epoch 48/100
28/28 [=====] - 0s 2ms/step - loss: 0.4133 - accuracy: 0.8159
Epoch 49/100
28/28 [=====] - 0s 2ms/step - loss: 0.4130 - accuracy: 0.8182
Epoch 50/100
28/28 [=====] - 0s 2ms/step - loss: 0.4130 - accuracy: 0.8182
Epoch 51/100
28/28 [=====] - 0s 2ms/step - loss: 0.4123 - accuracy: 0.8193
Epoch 52/100
28/28 [=====] - 0s 2ms/step - loss: 0.4119 - accuracy: 0.8171
Epoch 53/100
28/28 [=====] - 0s 3ms/step - loss: 0.4114 - accuracy: 0.8193
Epoch 54/100
28/28 [=====] - 0s 3ms/step - loss: 0.4111 - accuracy: 0.8182
Epoch 55/100
28/28 [=====] - 0s 3ms/step - loss: 0.4104 - accuracy: 0.8171
Epoch 56/100
28/28 [=====] - 0s 3ms/step - loss: 0.4099 - accuracy: 0.8171
Epoch 57/100
28/28 [=====] - 0s 2ms/step - loss: 0.4095 - accuracy: 0.8171
Epoch 58/100
28/28 [=====] - 0s 2ms/step - loss: 0.4093 - accuracy: 0.8204
Epoch 59/100
28/28 [=====] - 0s 2ms/step - loss: 0.4083 - accuracy: 0.8204
Epoch 60/100
28/28 [=====] - 0s 2ms/step - loss: 0.4083 - accuracy: 0.8204
Epoch 61/100
28/28 [=====] - 0s 2ms/step - loss: 0.4078 - accuracy: 0.8227
Epoch 62/100
28/28 [=====] - 0s 2ms/step - loss: 0.4080 - accuracy: 0.8204
Epoch 63/100
28/28 [=====] - 0s 2ms/step - loss: 0.4072 - accuracy: 0.8260

Epoch 64/100
28/28 [=====] - 0s 2ms/step - loss: 0.4064 - accuracy: 0.8249
Epoch 65/100
28/28 [=====] - 0s 2ms/step - loss: 0.4059 - accuracy: 0.8215
Epoch 66/100
28/28 [=====] - 0s 2ms/step - loss: 0.4062 - accuracy: 0.8260
Epoch 67/100
28/28 [=====] - 0s 2ms/step - loss: 0.4052 - accuracy: 0.8238
Epoch 68/100
28/28 [=====] - 0s 2ms/step - loss: 0.4049 - accuracy: 0.8227
Epoch 69/100
28/28 [=====] - 0s 2ms/step - loss: 0.4047 - accuracy: 0.8238
Epoch 70/100
28/28 [=====] - 0s 2ms/step - loss: 0.4047 - accuracy: 0.8272
Epoch 71/100
28/28 [=====] - 0s 2ms/step - loss: 0.4037 - accuracy: 0.8283
Epoch 72/100
28/28 [=====] - 0s 2ms/step - loss: 0.4037 - accuracy: 0.8215
Epoch 73/100
28/28 [=====] - 0s 3ms/step - loss: 0.4037 - accuracy: 0.8249
Epoch 74/100
28/28 [=====] - 0s 3ms/step - loss: 0.4041 - accuracy: 0.8316
Epoch 75/100
28/28 [=====] - 0s 2ms/step - loss: 0.4033 - accuracy: 0.8316
Epoch 76/100
28/28 [=====] - 0s 3ms/step - loss: 0.4026 - accuracy: 0.8316
Epoch 77/100
28/28 [=====] - 0s 3ms/step - loss: 0.4020 - accuracy: 0.8305
Epoch 78/100
28/28 [=====] - 0s 3ms/step - loss: 0.4017 - accuracy: 0.8305
Epoch 79/100
28/28 [=====] - 0s 2ms/step - loss: 0.4013 - accuracy: 0.8328
Epoch 80/100
28/28 [=====] - 0s 2ms/step - loss: 0.4010 - accuracy: 0.8350
Epoch 81/100
28/28 [=====] - 0s 3ms/step - loss: 0.4007 - accuracy: 0.8328
Epoch 82/100
28/28 [=====] - 0s 5ms/step - loss: 0.4010 - accuracy: 0.8339
Epoch 83/100
28/28 [=====] - 0s 3ms/step - loss: 0.4000 - accuracy: 0.8305
Epoch 84/100
28/28 [=====] - 0s 2ms/step - loss: 0.3998 - accuracy: 0.8339
Epoch 85/100
28/28 [=====] - 0s 3ms/step - loss: 0.3999 - accuracy: 0.8328
Epoch 86/100
28/28 [=====] - 0s 3ms/step - loss: 0.3997 - accuracy: 0.8339
Epoch 87/100
28/28 [=====] - 0s 3ms/step - loss: 0.3994 - accuracy: 0.8350
Epoch 88/100
28/28 [=====] - 0s 2ms/step - loss: 0.3992 - accuracy: 0.8350
Epoch 89/100
28/28 [=====] - 0s 3ms/step - loss: 0.3995 - accuracy: 0.8361
Epoch 90/100
28/28 [=====] - 0s 3ms/step - loss: 0.3991 - accuracy: 0.8350
Epoch 91/100
28/28 [=====] - 0s 3ms/step - loss: 0.3985 - accuracy: 0.8316
Epoch 92/100
28/28 [=====] - 0s 3ms/step - loss: 0.3987 - accuracy: 0.8339
Epoch 93/100
28/28 [=====] - 0s 3ms/step - loss: 0.3986 - accuracy: 0.8350
Epoch 94/100
28/28 [=====] - 0s 3ms/step - loss: 0.3980 - accuracy: 0.8339
Epoch 95/100
28/28 [=====] - 0s 3ms/step - loss: 0.3982 - accuracy: 0.8395
Epoch 96/100
28/28 [=====] - 0s 3ms/step - loss: 0.3981 - accuracy: 0.8384
Epoch 97/100
28/28 [=====] - 0s 3ms/step - loss: 0.3976 - accuracy: 0.8373
Epoch 98/100
28/28 [=====] - 0s 3ms/step - loss: 0.3974 - accuracy: 0.8384
Epoch 99/100
28/28 [=====] - 0s 3ms/step - loss: 0.3973 - accuracy: 0.8328

```
Epoch 100/100
28/28 [=====] - 0s 3ms/step - loss: 0.3973 - accuracy: 0.8361
```

Out[24]:

```
<keras.callbacks.History at 0x7f70345766d0>
```

Making prediction and Model evaluation

- Prediction

In [25]:

```
y_pred = (ann.predict(X_test)>0.5)
```

- Evaluation through metrics

In [26]:

```
from sklearn.metrics import confusion_matrix, accuracy_score
print('Confusion Matrix :\n', confusion_matrix(y_test, y_pred))
print('Accuracy Score :', accuracy_score(y_test, y_pred))
```

```
Confusion Matrix :
 [[250 16]
 [ 27 125]]
Accuracy Score : 0.8971291866028708
```

- Making csv file for submission

In [27]:

```
test_dataset.PassengerId
```

Out[27]:

```
0      892
1      893
2      894
3      895
4      896
...
413    1305
414    1306
415    1307
416    1308
417    1309
Name: PassengerId, Length: 418, dtype: int64
```

In [28]:

```
predictions = []
for i in y_pred:
    if i[0]:
        predictions.append(1)
    else:
        predictions.append(0)
# predictions
```

In [29]:

```
# output = pd.DataFrame({"PassengerId": test_dataset.PassengerId, "Survived": predictions})
# print(output)
# output.to_csv('19BCE245_DL_Prac1.csv', index=False)
```

Extra models:

1. XGBoost

In [30]:

```
from xgboost import XGBClassifier    # Similarly for regression, there is a class named as
`XGRegressor`
classifier = XGBClassifier()
classifier.fit(X_train, y_train)
from sklearn.metrics import confusion_matrix, accuracy_score
y_pred = classifier.predict(X_test)
cm = confusion_matrix(y_test, y_pred)
print(cm)
accuracy_score(y_test, y_pred)
```

```
/opt/conda/lib/python3.7/site-packages/xgboost/sklearn.py:1224: UserWarning: The use of 1
abel encoder in XGBClassifier is deprecated and will be removed in a future release. To r
emove this warning, do the following: 1) Pass option use_label_encoder=False when constru
cting XGBClassifier object; and 2) Encode your labels (y) as integers starting with 0, i.
e. 0, 1, 2, ..., [num_class - 1].
warnings.warn(label_encoder_deprecation_msg, UserWarning)
```

```
[19:07:23] WARNING: ../src/learner.cc:1115: Starting in XGBoost 1.3.0, the default evalua
tion metric used with the objective 'binary:logistic' was changed from 'error' to 'loglos
s'. Explicitly set eval_metric if you'd like to restore the old behavior.
```

```
[[230 36]
 [ 38 114]]
```

Out[30]:

```
0.8229665071770335
```

In [31]:

```
from sklearn.model_selection import cross_val_score
accuracies = cross_val_score(estimator = classifier, X = X_train, y = y_train, cv = 10)
print(f"Accuracy: {accuracies.mean()*100:.2f} %")
print(f"Standard Deviation: {accuracies.std()*100:.2f} %")
```

```
/opt/conda/lib/python3.7/site-packages/xgboost/sklearn.py:1224: UserWarning: The use of 1
abel encoder in XGBClassifier is deprecated and will be removed in a future release. To r
emove this warning, do the following: 1) Pass option use_label_encoder=False when constru
cting XGBClassifier object; and 2) Encode your labels (y) as integers starting with 0, i.
e. 0, 1, 2, ..., [num_class - 1].
warnings.warn(label_encoder_deprecation_msg, UserWarning)
```

```
[19:07:24] WARNING: ../src/learner.cc:1115: Starting in XGBoost 1.3.0, the default evalua
tion metric used with the objective 'binary:logistic' was changed from 'error' to 'loglos
s'. Explicitly set eval_metric if you'd like to restore the old behavior.
```

```
[19:07:25] WARNING: ../src/learner.cc:1115: Starting in XGBoost 1.3.0, the default evalua
tion metric used with the objective 'binary:logistic' was changed from 'error' to 'loglos
s'. Explicitly set eval_metric if you'd like to restore the old behavior.
```

```
[19:07:26] WARNING: ../src/learner.cc:1115: Starting in XGBoost 1.3.0, the default evalua
tion metric used with the objective 'binary:logistic' was changed from 'error' to 'loglos
s'. Explicitly set eval_metric if you'd like to restore the old behavior.
```

```
[19:07:27] WARNING: ../src/learner.cc:1115: Starting in XGBoost 1.3.0, the default evalua
tion metric used with the objective 'binary:logistic' was changed from 'error' to 'loglos
s'. Explicitly set eval_metric if you'd like to restore the old behavior.
```

```
[19:07:27] WARNING: ../src/learner.cc:1115: Starting in XGBoost 1.3.0, the default evalua
tion metric used with the objective 'binary:logistic' was changed from 'error' to 'loglos
s'. Explicitly set eval_metric if you'd like to restore the old behavior.
```

```
[19:07:28] WARNING: ../src/learner.cc:1115: Starting in XGBoost 1.3.0, the default evalua
tion metric used with the objective 'binary:logistic' was changed from 'error' to 'loglos
s'. Explicitly set eval_metric if you'd like to restore the old behavior.
```

```
[19:07:28] WARNING: ../src/learner.cc:1115: Starting in XGBoost 1.3.0, the default evalua
tion metric used with the objective 'binary:logistic' was changed from 'error' to 'loglos
s'. Explicitly set eval_metric if you'd like to restore the old behavior.
```

```
[19:07:29] WARNING: ../src/learner.cc:1115: Starting in XGBoost 1.3.0, the default evalua
tion metric used with the objective 'binary:logistic' was changed from 'error' to 'loglos
s'. Explicitly set eval metric if you'd like to restore the old behavior.
```

```
[19:07:30] WARNING: .../src/learner.cc:1115: Starting in XGBoost 1.3.0, the default evaluation metric used with the objective 'binary:logistic' was changed from 'error' to 'logloss'. Explicitly set eval_metric if you'd like to restore the old behavior.  
[19:07:30] WARNING: .../src/learner.cc:1115: Starting in XGBoost 1.3.0, the default evaluation metric used with the objective 'binary:logistic' was changed from 'error' to 'logloss'. Explicitly set eval_metric if you'd like to restore the old behavior.  
Accuracy: 80.92 %  
Standard Deviation: 3.88 %
```

2. CatBoost

In [32]:

```
!pip install catboost
```

```
Requirement already satisfied: catboost in /opt/conda/lib/python3.7/site-packages (1.0.4)  
Requirement already satisfied: plotly in /opt/conda/lib/python3.7/site-packages (from catboost) (5.5.0)  
Requirement already satisfied: scipy in /opt/conda/lib/python3.7/site-packages (from catboost) (1.7.3)  
Requirement already satisfied: numpy>=1.16.0 in /opt/conda/lib/python3.7/site-packages (from catboost) (1.20.3)  
Requirement already satisfied: matplotlib in /opt/conda/lib/python3.7/site-packages (from catboost) (3.5.1)  
Requirement already satisfied: six in /opt/conda/lib/python3.7/site-packages (from catboost) (1.16.0)  
Requirement already satisfied: graphviz in /opt/conda/lib/python3.7/site-packages (from catboost) (0.8.4)  
Requirement already satisfied: pandas>=0.24.0 in /opt/conda/lib/python3.7/site-packages (from catboost) (1.3.5)  
Requirement already satisfied: python-dateutil>=2.7.3 in /opt/conda/lib/python3.7/site-packages (from pandas>=0.24.0->catboost) (2.8.0)  
Requirement already satisfied: pytz>=2017.3 in /opt/conda/lib/python3.7/site-packages (from pandas>=0.24.0->catboost) (2021.3)  
Requirement already satisfied: fonttools>=4.22.0 in /opt/conda/lib/python3.7/site-packages (from matplotlib->catboost) (4.28.4)  
Requirement already satisfied: pillow>=6.2.0 in /opt/conda/lib/python3.7/site-packages (from matplotlib->catboost) (8.2.0)  
Requirement already satisfied: packaging>=20.0 in /opt/conda/lib/python3.7/site-packages (from matplotlib->catboost) (21.3)  
Requirement already satisfied: pyparsing>=2.2.1 in /opt/conda/lib/python3.7/site-packages (from matplotlib->catboost) (3.0.6)  
Requirement already satisfied: cycler>=0.10 in /opt/conda/lib/python3.7/site-packages (from matplotlib->catboost) (0.11.0)  
Requirement already satisfied: kiwisolver>=1.0.1 in /opt/conda/lib/python3.7/site-packages (from matplotlib->catboost) (1.3.2)  
Requirement already satisfied: tenacity>=6.2.0 in /opt/conda/lib/python3.7/site-packages (from plotly->catboost) (8.0.1)  
WARNING: Running pip as the 'root' user can result in broken permissions and conflicting behaviour with the system package manager. It is recommended to use a virtual environment instead: https://pip.pypa.io/warnings/venv
```

In [33]:

```
from catboost import CatBoostClassifier # The same CatBoostRegressor is available for Regression.  
classifier = CatBoostClassifier()  
classifier.fit(X_train, y_train)
```

```
Learning rate set to 0.009807  
0: learn: 0.6865383 total: 53.8ms remaining: 53.8s  
1: learn: 0.6806346 total: 55.2ms remaining: 27.6s  
2: learn: 0.6767701 total: 56.2ms remaining: 18.7s  
3: learn: 0.6709615 total: 57.7ms remaining: 14.4s  
4: learn: 0.6650482 total: 59.3ms remaining: 11.8s  
5: learn: 0.6590147 total: 60.9ms remaining: 10.1s  
6: learn: 0.6533568 total: 62.3ms remaining: 8.84s  
7: learn: 0.6478691 total: 63.9ms remaining: 7.93s  
8: learn: 0.6428664 total: 65ms remaining: 7.16s  
9: learn: 0.6370185 total: 66.5ms remaining: 6.58s  
10: learn: 0.6311716 total: 68ms remaining: 6.12s
```

10: learn: 0.6325116 total: 68.2ms remaining: 6.13s
11: learn: 0.6281765 total: 69.3ms remaining: 5.7s
12: learn: 0.6232064 total: 70.8ms remaining: 5.37s
13: learn: 0.6187835 total: 72.3ms remaining: 5.09s
14: learn: 0.6137314 total: 73.7ms remaining: 4.84s
15: learn: 0.6092345 total: 74.9ms remaining: 4.61s
16: learn: 0.6056495 total: 75.8ms remaining: 4.38s
17: learn: 0.6004947 total: 77ms remaining: 4.2s
18: learn: 0.5964621 total: 78.5ms remaining: 4.05s
19: learn: 0.5916184 total: 79.8ms remaining: 3.91s
20: learn: 0.5873530 total: 81.1ms remaining: 3.78s
21: learn: 0.5831094 total: 82.6ms remaining: 3.67s
22: learn: 0.5782799 total: 84ms remaining: 3.57s
23: learn: 0.5751086 total: 84.8ms remaining: 3.45s
24: learn: 0.5711793 total: 86ms remaining: 3.35s
25: learn: 0.5675715 total: 87.8ms remaining: 3.29s
26: learn: 0.5638419 total: 89.1ms remaining: 3.21s
27: learn: 0.5607229 total: 90.6ms remaining: 3.14s
28: learn: 0.5565209 total: 92.3ms remaining: 3.09s
29: learn: 0.5530420 total: 93.5ms remaining: 3.02s
30: learn: 0.5496087 total: 94.9ms remaining: 2.97s
31: learn: 0.5462138 total: 96.3ms remaining: 2.91s
32: learn: 0.5432557 total: 97.8ms remaining: 2.87s
33: learn: 0.5403630 total: 99.2ms remaining: 2.82s
34: learn: 0.5380133 total: 100ms remaining: 2.77s
35: learn: 0.5354989 total: 101ms remaining: 2.71s
36: learn: 0.5324779 total: 103ms remaining: 2.67s
37: learn: 0.5289940 total: 104ms remaining: 2.64s
38: learn: 0.5257857 total: 107ms remaining: 2.63s
39: learn: 0.5231938 total: 108ms remaining: 2.6s
40: learn: 0.5201852 total: 109ms remaining: 2.56s
41: learn: 0.5187639 total: 110ms remaining: 2.52s
42: learn: 0.5162989 total: 112ms remaining: 2.49s
43: learn: 0.5139735 total: 113ms remaining: 2.45s
44: learn: 0.5125846 total: 113ms remaining: 2.41s
45: learn: 0.5098413 total: 115ms remaining: 2.38s
46: learn: 0.5078147 total: 116ms remaining: 2.34s
47: learn: 0.5054384 total: 118ms remaining: 2.34s
48: learn: 0.5029917 total: 119ms remaining: 2.31s
49: learn: 0.5012713 total: 120ms remaining: 2.27s
50: learn: 0.4987124 total: 121ms remaining: 2.25s
51: learn: 0.4962170 total: 122ms remaining: 2.23s
52: learn: 0.4946236 total: 123ms remaining: 2.2s
53: learn: 0.4925200 total: 125ms remaining: 2.18s
54: learn: 0.4906034 total: 126ms remaining: 2.16s
55: learn: 0.4880191 total: 128ms remaining: 2.16s
56: learn: 0.4862472 total: 131ms remaining: 2.16s
57: learn: 0.4841907 total: 132ms remaining: 2.15s
58: learn: 0.4826407 total: 134ms remaining: 2.13s
59: learn: 0.4809542 total: 135ms remaining: 2.12s
60: learn: 0.4788393 total: 137ms remaining: 2.11s
61: learn: 0.4773068 total: 138ms remaining: 2.09s
62: learn: 0.4754550 total: 139ms remaining: 2.07s
63: learn: 0.4741418 total: 140ms remaining: 2.05s
64: learn: 0.4723455 total: 142ms remaining: 2.05s
65: learn: 0.4703930 total: 144ms remaining: 2.03s
66: learn: 0.4686302 total: 145ms remaining: 2.02s
67: learn: 0.4667206 total: 146ms remaining: 2s
68: learn: 0.4652062 total: 148ms remaining: 2s
69: learn: 0.4634119 total: 149ms remaining: 1.98s
70: learn: 0.4616053 total: 151ms remaining: 1.97s
71: learn: 0.4601936 total: 152ms remaining: 1.96s
72: learn: 0.4585553 total: 154ms remaining: 1.95s
73: learn: 0.4568180 total: 155ms remaining: 1.94s
74: learn: 0.4562312 total: 156ms remaining: 1.92s
75: learn: 0.4544744 total: 157ms remaining: 1.91s
76: learn: 0.4528753 total: 159ms remaining: 1.9s
77: learn: 0.4515149 total: 160ms remaining: 1.89s
78: learn: 0.4500691 total: 163ms remaining: 1.9s
79: learn: 0.4489836 total: 165ms remaining: 1.89s
80: learn: 0.4478693 total: 166ms remaining: 1.88s
81: learn: 0.4465592 total: 167ms remaining: 1.87s
82: learn: 0.4452210 total: 168ms remaining: 1.86s
83: learn: 0.4440040 total: 169ms remaining: 1.85s
84: learn: 0.4428010 total: 170ms remaining: 1.84s
85: learn: 0.4416000 total: 171ms remaining: 1.83s
86: learn: 0.4404000 total: 172ms remaining: 1.82s
87: learn: 0.4392000 total: 173ms remaining: 1.81s
88: learn: 0.4380000 total: 174ms remaining: 1.8s
89: learn: 0.4368000 total: 175ms remaining: 1.79s
90: learn: 0.4356000 total: 176ms remaining: 1.78s
91: learn: 0.4344000 total: 177ms remaining: 1.77s
92: learn: 0.4332000 total: 178ms remaining: 1.76s
93: learn: 0.4320000 total: 179ms remaining: 1.75s
94: learn: 0.4308000 total: 180ms remaining: 1.74s
95: learn: 0.4296000 total: 181ms remaining: 1.73s
96: learn: 0.4284000 total: 182ms remaining: 1.72s
97: learn: 0.4272000 total: 183ms remaining: 1.71s
98: learn: 0.4260000 total: 184ms remaining: 1.7s
99: learn: 0.4248000 total: 185ms remaining: 1.69s
100: learn: 0.4236000 total: 186ms remaining: 1.68s
101: learn: 0.4224000 total: 187ms remaining: 1.67s
102: learn: 0.4212000 total: 188ms remaining: 1.66s
103: learn: 0.4200000 total: 189ms remaining: 1.65s
104: learn: 0.4188000 total: 190ms remaining: 1.64s
105: learn: 0.4176000 total: 191ms remaining: 1.63s
106: learn: 0.4164000 total: 192ms remaining: 1.62s
107: learn: 0.4152000 total: 193ms remaining: 1.61s
108: learn: 0.4140000 total: 194ms remaining: 1.6s
109: learn: 0.4128000 total: 195ms remaining: 1.59s
110: learn: 0.4116000 total: 196ms remaining: 1.58s
111: learn: 0.4104000 total: 197ms remaining: 1.57s
112: learn: 0.4092000 total: 198ms remaining: 1.56s
113: learn: 0.4080000 total: 199ms remaining: 1.55s
114: learn: 0.4068000 total: 200ms remaining: 1.54s
115: learn: 0.4056000 total: 201ms remaining: 1.53s
116: learn: 0.4044000 total: 202ms remaining: 1.52s
117: learn: 0.4032000 total: 203ms remaining: 1.51s
118: learn: 0.4020000 total: 204ms remaining: 1.5s
119: learn: 0.4008000 total: 205ms remaining: 1.49s
120: learn: 0.3996000 total: 206ms remaining: 1.48s
121: learn: 0.3984000 total: 207ms remaining: 1.47s
122: learn: 0.3972000 total: 208ms remaining: 1.46s
123: learn: 0.3960000 total: 209ms remaining: 1.45s
124: learn: 0.3948000 total: 210ms remaining: 1.44s
125: learn: 0.3936000 total: 211ms remaining: 1.43s
126: learn: 0.3924000 total: 212ms remaining: 1.42s
127: learn: 0.3912000 total: 213ms remaining: 1.41s
128: learn: 0.3900000 total: 214ms remaining: 1.4s
129: learn: 0.3888000 total: 215ms remaining: 1.39s
130: learn: 0.3876000 total: 216ms remaining: 1.38s
131: learn: 0.3864000 total: 217ms remaining: 1.37s
132: learn: 0.3852000 total: 218ms remaining: 1.36s
133: learn: 0.3840000 total: 219ms remaining: 1.35s
134: learn: 0.3828000 total: 220ms remaining: 1.34s
135: learn: 0.3816000 total: 221ms remaining: 1.33s
136: learn: 0.3804000 total: 222ms remaining: 1.32s
137: learn: 0.3792000 total: 223ms remaining: 1.31s
138: learn: 0.3780000 total: 224ms remaining: 1.3s
139: learn: 0.3768000 total: 225ms remaining: 1.29s
140: learn: 0.3756000 total: 226ms remaining: 1.28s
141: learn: 0.3744000 total: 227ms remaining: 1.27s
142: learn: 0.3732000 total: 228ms remaining: 1.26s
143: learn: 0.3720000 total: 229ms remaining: 1.25s
144: learn: 0.3708000 total: 230ms remaining: 1.24s
145: learn: 0.3696000 total: 231ms remaining: 1.23s
146: learn: 0.3684000 total: 232ms remaining: 1.22s
147: learn: 0.3672000 total: 233ms remaining: 1.21s
148: learn: 0.3660000 total: 234ms remaining: 1.2s
149: learn: 0.3648000 total: 235ms remaining: 1.19s
150: learn: 0.3636000 total: 236ms remaining: 1.18s
151: learn: 0.3624000 total: 237ms remaining: 1.17s
152: learn: 0.3612000 total: 238ms remaining: 1.16s
153: learn: 0.3600000 total: 239ms remaining: 1.15s
154: learn: 0.3588000 total: 240ms remaining: 1.14s
155: learn: 0.3576000 total: 241ms remaining: 1.13s
156: learn: 0.3564000 total: 242ms remaining: 1.12s
157: learn: 0.3552000 total: 243ms remaining: 1.11s
158: learn: 0.3540000 total: 244ms remaining: 1.1s
159: learn: 0.3528000 total: 245ms remaining: 1.09s
160: learn: 0.3516000 total: 246ms remaining: 1.08s
161: learn: 0.3504000 total: 247ms remaining: 1.07s
162: learn: 0.3492000 total: 248ms remaining: 1.06s
163: learn: 0.3480000 total: 249ms remaining: 1.05s
164: learn: 0.3468000 total: 250ms remaining: 1.04s
165: learn: 0.3456000 total: 251ms remaining: 1.03s
166: learn: 0.3444000 total: 252ms remaining: 1.02s
167: learn: 0.3432000 total: 253ms remaining: 1.01s
168: learn: 0.3420000 total: 254ms remaining: 1.0s
169: learn: 0.3408000 total: 255ms remaining: 0.99s
170: learn: 0.3396000 total: 256ms remaining: 0.98s
171: learn: 0.3384000 total: 257ms remaining: 0.97s
172: learn: 0.3372000 total: 258ms remaining: 0.96s
173: learn: 0.3360000 total: 259ms remaining: 0.95s
174: learn: 0.3348000 total: 260ms remaining: 0.94s
175: learn: 0.3336000 total: 261ms remaining: 0.93s
176: learn: 0.3324000 total: 262ms remaining: 0.92s
177: learn: 0.3312000 total: 263ms remaining: 0.91s
178: learn: 0.3300000 total: 264ms remaining: 0.9s
179: learn: 0.3288000 total: 265ms remaining: 0.89s
180: learn: 0.3276000 total: 266ms remaining: 0.88s
181: learn: 0.3264000 total: 267ms remaining: 0.87s
182: learn: 0.3252000 total: 268ms remaining: 0.86s
183: learn: 0.3240000 total: 269ms remaining: 0.85s
184: learn: 0.3228000 total: 270ms remaining: 0.84s
185: learn: 0.3216000 total: 271ms remaining: 0.83s
186: learn: 0.3204000 total: 272ms remaining: 0.82s
187: learn: 0.3192000 total: 273ms remaining: 0.81s
188: learn: 0.3180000 total: 274ms remaining: 0.8s
189: learn: 0.3168000 total: 275ms remaining: 0.79s
190: learn: 0.3156000 total: 276ms remaining: 0.78s
191: learn: 0.3144000 total: 277ms remaining: 0.77s
192: learn: 0.3132000 total: 278ms remaining: 0.76s
193: learn: 0.3120000 total: 279ms remaining: 0.75s
194: learn: 0.3108000 total: 280ms remaining: 0.74s
195: learn: 0.3096000 total: 281ms remaining: 0.73s
196: learn: 0.3084000 total: 282ms remaining: 0.72s
197: learn: 0.3072000 total: 283ms remaining: 0.71s
198: learn: 0.3060000 total: 284ms remaining: 0.7s
199: learn: 0.3048000 total: 285ms remaining: 0.69s
200: learn: 0.3036000 total: 286ms remaining: 0.68s
201: learn: 0.3024000 total: 287ms remaining: 0.67s
202: learn: 0.3012000 total: 288ms remaining: 0.66s
203: learn: 0.3000000 total: 289ms remaining: 0.65s
204: learn: 0.2988000 total: 290ms remaining: 0.64s
205: learn: 0.2976000 total: 291ms remaining: 0.63s
206: learn: 0.2964000 total: 292ms remaining: 0.62s
207: learn: 0.2952000 total: 293ms remaining: 0.61s
208: learn: 0.2940000 total: 294ms remaining: 0.6s
209: learn: 0.2928000 total: 295ms remaining: 0.59s
210: learn: 0.2916000 total: 296ms remaining: 0.58s
211: learn: 0.2904000 total: 297ms remaining: 0.57s
212: learn: 0.2892000 total: 298ms remaining: 0.56s
213: learn: 0.2880000 total: 299ms remaining: 0.55s
214: learn: 0.2868000 total: 300ms remaining: 0.54s
215: learn: 0.2856000 total: 301ms remaining: 0.53s
216: learn: 0.2844000 total: 302ms remaining: 0.52s
217: learn: 0.2832000 total: 303ms remaining: 0.51s
218: learn: 0.2820000 total: 304ms remaining: 0.5s
219: learn: 0.2808000 total: 305ms remaining: 0.49s
220: learn: 0.2796000 total: 306ms remaining: 0.48s
221: learn: 0.2784000 total: 307ms remaining: 0.47s
222: learn: 0.2772000 total: 308ms remaining: 0.46s
223: learn: 0.2760000 total: 309ms remaining: 0.45s
224: learn: 0.2748000 total: 310ms remaining: 0.44s
225: learn: 0.2736000 total: 311ms remaining: 0.43s
226: learn: 0.2724000 total: 312ms remaining: 0.42s
227: learn: 0.2712000 total: 313ms remaining: 0.41s
228: learn: 0.2700000 total: 314ms remaining: 0.4s
229: learn: 0.2688000 total: 315ms remaining: 0.39s
230: learn: 0.2676000 total: 316ms remaining: 0.38s
231: learn: 0.2664000 total: 317ms remaining: 0.37s
232: learn: 0.2652000 total: 318ms remaining: 0.36s
233: learn: 0.2640000 total: 319ms remaining: 0.35s
234: learn: 0.2628000 total: 320ms remaining: 0.34s
235: learn: 0.2616000 total: 321ms remaining: 0.33s
236: learn: 0.2604000 total: 322ms remaining: 0.32s
237: learn: 0.2592000 total: 323ms remaining: 0.31s
238: learn: 0.2580000 total: 324ms remaining: 0.3s
239: learn: 0.2568000 total: 325ms remaining: 0.29s
240: learn: 0.2556000 total: 326ms remaining: 0.28s
241: learn: 0.2544000 total: 327ms remaining: 0.27s
242: learn: 0.2532000 total: 328ms remaining: 0.26s
243: learn: 0.2520000 total: 329ms remaining: 0.25s
244: learn: 0.2508000 total: 330ms remaining: 0.24s
245: learn: 0.2496000 total: 331ms remaining: 0.23s
246: learn: 0.2484000 total: 332ms remaining: 0.22s
247: learn: 0.2472000 total: 333ms remaining: 0.21s
248: learn: 0.2460000 total: 334ms remaining: 0.2s
249: learn: 0.2448000 total: 335ms remaining: 0.19s
250: learn: 0.2436000 total: 336ms remaining: 0.18s
251: learn: 0.2424000 total: 337ms remaining: 0.17s
252: learn: 0.2412000 total: 338ms remaining: 0.16s
253: learn: 0.2400000 total: 339ms remaining: 0.15s
254: learn: 0.2388000 total: 340ms remaining: 0.14s
255: learn: 0.2376000 total: 341ms remaining: 0.13s
256: learn: 0.2364000 total: 342ms remaining: 0.12s
257: learn: 0.2352000 total: 343ms remaining: 0.11s
258: learn: 0.2340000 total: 344ms remaining: 0.1s
259: learn: 0.2328000 total: 345ms remaining: 0.09s
260: learn: 0.2316000 total: 346ms remaining: 0.08s
261: learn: 0.2304000 total: 347ms remaining: 0.07s
262: learn: 0.2292000 total: 348ms remaining: 0.06s
263: learn: 0.2280000 total: 349ms remaining: 0.05s
264: learn: 0.2268000 total: 350ms remaining: 0.04s
265: learn: 0.2256000 total: 351ms remaining: 0.03s
266: learn: 0.2244000 total: 352ms remaining: 0.02s
267: learn: 0.2232000 total: 353ms remaining: 0.01s
268: learn: 0.2220000 total: 354ms remaining: 0s

82: learn: 0.4453949 total: 168ms remaining: 1.86s
83: learn: 0.4442990 total: 170ms remaining: 1.85s
84: learn: 0.4430477 total: 171ms remaining: 1.84s
85: learn: 0.4416480 total: 173ms remaining: 1.83s
86: learn: 0.4403624 total: 175ms remaining: 1.83s
87: learn: 0.4393912 total: 176ms remaining: 1.82s
88: learn: 0.4382571 total: 178ms remaining: 1.82s
89: learn: 0.4374060 total: 180ms remaining: 1.81s
90: learn: 0.4363711 total: 184ms remaining: 1.84s
91: learn: 0.4354909 total: 186ms remaining: 1.84s
92: learn: 0.4348646 total: 187ms remaining: 1.83s
93: learn: 0.4338476 total: 189ms remaining: 1.82s
94: learn: 0.4329489 total: 190ms remaining: 1.81s
95: learn: 0.4317058 total: 191ms remaining: 1.8s
96: learn: 0.4306043 total: 193ms remaining: 1.8s
97: learn: 0.4293694 total: 194ms remaining: 1.79s
98: learn: 0.4283844 total: 196ms remaining: 1.78s
99: learn: 0.4272231 total: 197ms remaining: 1.77s
100: learn: 0.4267159 total: 198ms remaining: 1.76s
101: learn: 0.4259438 total: 200ms remaining: 1.76s
102: learn: 0.4247985 total: 201ms remaining: 1.75s
103: learn: 0.4238730 total: 202ms remaining: 1.74s
104: learn: 0.4229757 total: 204ms remaining: 1.74s
105: learn: 0.4219207 total: 205ms remaining: 1.73s
106: learn: 0.4209959 total: 206ms remaining: 1.72s
107: learn: 0.4201490 total: 208ms remaining: 1.72s
108: learn: 0.4192642 total: 209ms remaining: 1.71s
109: learn: 0.4184107 total: 211ms remaining: 1.7s
110: learn: 0.4180146 total: 211ms remaining: 1.69s
111: learn: 0.4174109 total: 212ms remaining: 1.68s
112: learn: 0.4165768 total: 214ms remaining: 1.68s
113: learn: 0.4159091 total: 215ms remaining: 1.67s
114: learn: 0.4156797 total: 215ms remaining: 1.66s
115: learn: 0.4147523 total: 216ms remaining: 1.65s
116: learn: 0.4139606 total: 218ms remaining: 1.65s
117: learn: 0.4135056 total: 219ms remaining: 1.64s
118: learn: 0.4129001 total: 220ms remaining: 1.63s
119: learn: 0.4121343 total: 222ms remaining: 1.63s
120: learn: 0.4115358 total: 223ms remaining: 1.62s
121: learn: 0.4108015 total: 225ms remaining: 1.62s
122: learn: 0.4106099 total: 225ms remaining: 1.61s
123: learn: 0.4102966 total: 227ms remaining: 1.6s
124: learn: 0.4098188 total: 228ms remaining: 1.59s
125: learn: 0.4090476 total: 229ms remaining: 1.59s
126: learn: 0.4083565 total: 231ms remaining: 1.59s
127: learn: 0.4078597 total: 232ms remaining: 1.58s
128: learn: 0.4070448 total: 234ms remaining: 1.58s
129: learn: 0.4064946 total: 235ms remaining: 1.57s
130: learn: 0.4059819 total: 236ms remaining: 1.57s
131: learn: 0.4053958 total: 238ms remaining: 1.56s
132: learn: 0.4047684 total: 239ms remaining: 1.56s
133: learn: 0.4043123 total: 241ms remaining: 1.55s
134: learn: 0.4038141 total: 242ms remaining: 1.55s
135: learn: 0.4032261 total: 244ms remaining: 1.55s
136: learn: 0.4025482 total: 245ms remaining: 1.54s
137: learn: 0.4023851 total: 246ms remaining: 1.54s
138: learn: 0.4017487 total: 248ms remaining: 1.53s
139: learn: 0.4013009 total: 249ms remaining: 1.53s
140: learn: 0.4010205 total: 250ms remaining: 1.52s
141: learn: 0.4005530 total: 251ms remaining: 1.52s
142: learn: 0.4002699 total: 252ms remaining: 1.51s
143: learn: 0.3997681 total: 253ms remaining: 1.51s
144: learn: 0.3994226 total: 255ms remaining: 1.5s
145: learn: 0.3988791 total: 256ms remaining: 1.5s
146: learn: 0.3984385 total: 257ms remaining: 1.49s
147: learn: 0.3979471 total: 258ms remaining: 1.49s
148: learn: 0.3973311 total: 260ms remaining: 1.48s
149: learn: 0.3970197 total: 261ms remaining: 1.48s
150: learn: 0.3966482 total: 262ms remaining: 1.47s
151: learn: 0.3963284 total: 263ms remaining: 1.47s
152: learn: 0.3957758 total: 265ms remaining: 1.46s
153: learn: 0.3952566 total: 266ms remaining: 1.46s

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154: learn: 0.3951190 total: 261ms remaining: 1.46s
155: learn: 0.3945095 total: 268ms remaining: 1.45s
156: learn: 0.3941398 total: 269ms remaining: 1.45s
157: learn: 0.3938628 total: 271ms remaining: 1.44s
158: learn: 0.3931681 total: 272ms remaining: 1.44s
159: learn: 0.3928375 total: 273ms remaining: 1.43s
160: learn: 0.3924432 total: 274ms remaining: 1.43s
161: learn: 0.3921184 total: 275ms remaining: 1.42s
162: learn: 0.3917074 total: 277ms remaining: 1.42s
163: learn: 0.3912105 total: 278ms remaining: 1.42s
164: learn: 0.3907866 total: 279ms remaining: 1.41s
165: learn: 0.3903981 total: 281ms remaining: 1.41s
166: learn: 0.3902223 total: 283ms remaining: 1.41s
167: learn: 0.3901766 total: 284ms remaining: 1.4s
168: learn: 0.3897581 total: 285ms remaining: 1.4s
169: learn: 0.3896368 total: 286ms remaining: 1.4s
170: learn: 0.3893034 total: 288ms remaining: 1.4s
171: learn: 0.3889292 total: 290ms remaining: 1.39s
172: learn: 0.3885710 total: 291ms remaining: 1.39s
173: learn: 0.3882253 total: 293ms remaining: 1.39s
174: learn: 0.3879176 total: 295ms remaining: 1.39s
175: learn: 0.3878142 total: 297ms remaining: 1.39s
176: learn: 0.3873953 total: 298ms remaining: 1.38s
177: learn: 0.3870532 total: 299ms remaining: 1.38s
178: learn: 0.3866247 total: 300ms remaining: 1.38s
179: learn: 0.3863751 total: 301ms remaining: 1.37s
180: learn: 0.3860832 total: 303ms remaining: 1.37s
181: learn: 0.3857160 total: 305ms remaining: 1.37s
182: learn: 0.3855449 total: 306ms remaining: 1.36s
183: learn: 0.3852382 total: 307ms remaining: 1.36s
184: learn: 0.3851851 total: 308ms remaining: 1.36s
185: learn: 0.3848126 total: 309ms remaining: 1.35s
186: learn: 0.3844975 total: 311ms remaining: 1.35s
187: learn: 0.3842662 total: 312ms remaining: 1.35s
188: learn: 0.3840235 total: 314ms remaining: 1.35s
189: learn: 0.3837106 total: 316ms remaining: 1.34s
190: learn: 0.3833765 total: 317ms remaining: 1.34s
191: learn: 0.3831723 total: 319ms remaining: 1.34s
192: learn: 0.3828482 total: 320ms remaining: 1.34s
193: learn: 0.3826702 total: 322ms remaining: 1.34s
194: learn: 0.3823433 total: 324ms remaining: 1.34s
195: learn: 0.3820583 total: 325ms remaining: 1.33s
196: learn: 0.3816611 total: 326ms remaining: 1.33s
197: learn: 0.3814329 total: 328ms remaining: 1.33s
198: learn: 0.3811269 total: 329ms remaining: 1.32s
199: learn: 0.3809442 total: 330ms remaining: 1.32s
200: learn: 0.3805586 total: 331ms remaining: 1.32s
201: learn: 0.3800322 total: 333ms remaining: 1.31s
202: learn: 0.3799010 total: 333ms remaining: 1.31s
203: learn: 0.3796455 total: 334ms remaining: 1.3s
204: learn: 0.3793422 total: 335ms remaining: 1.3s
205: learn: 0.3791803 total: 336ms remaining: 1.29s
206: learn: 0.3788598 total: 337ms remaining: 1.29s
207: learn: 0.3787407 total: 338ms remaining: 1.29s
208: learn: 0.3782902 total: 340ms remaining: 1.28s
209: learn: 0.3778104 total: 341ms remaining: 1.28s
210: learn: 0.3775038 total: 342ms remaining: 1.28s
211: learn: 0.3772927 total: 343ms remaining: 1.28s
212: learn: 0.3771133 total: 345ms remaining: 1.27s
213: learn: 0.3770292 total: 346ms remaining: 1.27s
214: learn: 0.3768949 total: 347ms remaining: 1.27s
215: learn: 0.3766235 total: 349ms remaining: 1.27s
216: learn: 0.3763073 total: 351ms remaining: 1.26s
217: learn: 0.3762418 total: 352ms remaining: 1.26s
218: learn: 0.3758937 total: 353ms remaining: 1.26s
219: learn: 0.3756171 total: 355ms remaining: 1.26s
220: learn: 0.3754589 total: 357ms remaining: 1.26s
221: learn: 0.3753099 total: 359ms remaining: 1.26s
222: learn: 0.3751688 total: 362ms remaining: 1.26s
223: learn: 0.3749083 total: 364ms remaining: 1.26s
224: learn: 0.3745904 total: 367ms remaining: 1.26s
225: learn: 0.3743620 total: 368ms remaining: 1.26s
...
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226: learn: 0.3741535 total: 371ms remaining: 1.26s
227: learn: 0.3738928 total: 371ms remaining: 1.26s
228: learn: 0.3734991 total: 373ms remaining: 1.25s
229: learn: 0.3731571 total: 374ms remaining: 1.25s
230: learn: 0.3729852 total: 376ms remaining: 1.25s
231: learn: 0.3726327 total: 377ms remaining: 1.25s
232: learn: 0.3724426 total: 378ms remaining: 1.25s
233: learn: 0.3722162 total: 380ms remaining: 1.24s
234: learn: 0.3717592 total: 382ms remaining: 1.24s
235: learn: 0.3715632 total: 384ms remaining: 1.24s
236: learn: 0.3713506 total: 386ms remaining: 1.24s
237: learn: 0.3711460 total: 388ms remaining: 1.24s
238: learn: 0.3709525 total: 390ms remaining: 1.24s
239: learn: 0.3707092 total: 391ms remaining: 1.24s
240: learn: 0.3704627 total: 393ms remaining: 1.24s
241: learn: 0.3703187 total: 395ms remaining: 1.24s
242: learn: 0.3700643 total: 396ms remaining: 1.23s
243: learn: 0.3698618 total: 398ms remaining: 1.23s
244: learn: 0.3696666 total: 400ms remaining: 1.23s
245: learn: 0.3693423 total: 401ms remaining: 1.23s
246: learn: 0.3691536 total: 403ms remaining: 1.23s
247: learn: 0.3690461 total: 405ms remaining: 1.23s
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251: learn: 0.3681066 total: 414ms remaining: 1.23s
252: learn: 0.3678238 total: 416ms remaining: 1.23s
253: learn: 0.3677782 total: 417ms remaining: 1.22s
254: learn: 0.3675345 total: 418ms remaining: 1.22s
255: learn: 0.3673683 total: 420ms remaining: 1.22s
256: learn: 0.3671238 total: 421ms remaining: 1.22s
257: learn: 0.3668998 total: 422ms remaining: 1.21s
258: learn: 0.3668496 total: 424ms remaining: 1.21s
259: learn: 0.3667713 total: 425ms remaining: 1.21s
260: learn: 0.3666247 total: 427ms remaining: 1.21s
261: learn: 0.3664054 total: 428ms remaining: 1.21s
262: learn: 0.3661919 total: 429ms remaining: 1.2s
263: learn: 0.3660365 total: 431ms remaining: 1.2s
264: learn: 0.3659154 total: 432ms remaining: 1.2s
265: learn: 0.3656880 total: 434ms remaining: 1.2s
266: learn: 0.3654946 total: 435ms remaining: 1.19s
267: learn: 0.3653486 total: 436ms remaining: 1.19s
268: learn: 0.3650680 total: 438ms remaining: 1.19s
269: learn: 0.3647728 total: 440ms remaining: 1.19s
270: learn: 0.3645089 total: 441ms remaining: 1.19s
271: learn: 0.3640465 total: 443ms remaining: 1.18s
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273: learn: 0.3636143 total: 447ms remaining: 1.18s
274: learn: 0.3634719 total: 449ms remaining: 1.18s
275: learn: 0.3632070 total: 451ms remaining: 1.18s
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277: learn: 0.3627036 total: 457ms remaining: 1.19s
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280: learn: 0.3618973 total: 462ms remaining: 1.18s
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283: learn: 0.3613120 total: 467ms remaining: 1.18s
284: learn: 0.3611410 total: 468ms remaining: 1.18s
285: learn: 0.3610520 total: 470ms remaining: 1.17s
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287: learn: 0.3605637 total: 474ms remaining: 1.17s
288: learn: 0.3604171 total: 475ms remaining: 1.17s
289: learn: 0.3602092 total: 478ms remaining: 1.17s
290: learn: 0.3600485 total: 479ms remaining: 1.17s
291: learn: 0.3598819 total: 481ms remaining: 1.17s
292: learn: 0.3598159 total: 483ms remaining: 1.16s
293: learn: 0.3596802 total: 484ms remaining: 1.16s
294: learn: 0.3594727 total: 486ms remaining: 1.16s
295: learn: 0.3592863 total: 487ms remaining: 1.16s
296: learn: 0.3592277 total: 491ms remaining: 1.16s
297: learn: 0.3591519 total: 492ms remaining: 1.16s
298: learn: 0.3590726 total: 494ms remaining: 1.16s
```

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298: learn: 0.3590136 total: 494ms remaining: 1.16s
299: learn: 0.3589690 total: 497ms remaining: 1.16s
300: learn: 0.3586836 total: 498ms remaining: 1.16s
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302: learn: 0.3584248 total: 501ms remaining: 1.15s
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306: learn: 0.3576458 total: 508ms remaining: 1.15s
307: learn: 0.3574136 total: 510ms remaining: 1.15s
308: learn: 0.3572111 total: 512ms remaining: 1.14s
309: learn: 0.3570230 total: 514ms remaining: 1.14s
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311: learn: 0.3568062 total: 519ms remaining: 1.14s
312: learn: 0.3565493 total: 521ms remaining: 1.14s
313: learn: 0.3564345 total: 523ms remaining: 1.14s
314: learn: 0.3563090 total: 526ms remaining: 1.14s
315: learn: 0.3560559 total: 528ms remaining: 1.14s
316: learn: 0.3559553 total: 530ms remaining: 1.14s
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334: learn: 0.3529357 total: 568ms remaining: 1.13s
335: learn: 0.3528536 total: 569ms remaining: 1.13s
336: learn: 0.3527341 total: 570ms remaining: 1.12s
337: learn: 0.3526063 total: 575ms remaining: 1.13s
338: learn: 0.3524179 total: 577ms remaining: 1.13s
339: learn: 0.3521557 total: 582ms remaining: 1.13s
340: learn: 0.3521002 total: 584ms remaining: 1.13s
341: learn: 0.3519678 total: 587ms remaining: 1.13s
342: learn: 0.3518903 total: 590ms remaining: 1.13s
343: learn: 0.3517509 total: 592ms remaining: 1.13s
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345: learn: 0.3515631 total: 599ms remaining: 1.13s
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348: learn: 0.3512181 total: 604ms remaining: 1.13s
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356: learn: 0.3502053 total: 618ms remaining: 1.11s
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362: learn: 0.3496369 total: 632ms remaining: 1.11s
363: learn: 0.3495309 total: 637ms remaining: 1.11s
364: learn: 0.3494410 total: 640ms remaining: 1.11s
365: learn: 0.3491161 total: 643ms remaining: 1.11s
366: learn: 0.3490990 total: 644ms remaining: 1.11s
367: learn: 0.3490873 total: 645ms remaining: 1.11s
368: learn: 0.3489880 total: 649ms remaining: 1.11s
369: learn: 0.3486508 total: 651ms remaining: 1.11s
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370: learn: 0.3485258 total: 654ms remaining: 1.11s
371: learn: 0.3483598 total: 656ms remaining: 1.11s
372: learn: 0.3481800 total: 660ms remaining: 1.11s
373: learn: 0.3481523 total: 662ms remaining: 1.11s
374: learn: 0.3480927 total: 664ms remaining: 1.11s
375: learn: 0.3478314 total: 667ms remaining: 1.11s
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377: learn: 0.3475877 total: 672ms remaining: 1.1s
378: learn: 0.3475479 total: 674ms remaining: 1.1s
379: learn: 0.3474440 total: 678ms remaining: 1.11s
380: learn: 0.3472396 total: 682ms remaining: 1.11s
381: learn: 0.3471269 total: 684ms remaining: 1.11s
382: learn: 0.3469359 total: 687ms remaining: 1.11s
383: learn: 0.3467796 total: 689ms remaining: 1.1s
384: learn: 0.3466850 total: 691ms remaining: 1.1s
385: learn: 0.3466294 total: 694ms remaining: 1.1s
386: learn: 0.3464251 total: 696ms remaining: 1.1s
387: learn: 0.3463060 total: 698ms remaining: 1.1s
388: learn: 0.3462268 total: 702ms remaining: 1.1s
389: learn: 0.3460770 total: 705ms remaining: 1.1s
390: learn: 0.3459389 total: 707ms remaining: 1.1s
391: learn: 0.3458957 total: 709ms remaining: 1.1s
392: learn: 0.3457980 total: 712ms remaining: 1.1s
393: learn: 0.3457635 total: 715ms remaining: 1.1s
394: learn: 0.3455678 total: 717ms remaining: 1.1s
395: learn: 0.3454422 total: 719ms remaining: 1.1s
396: learn: 0.3451515 total: 726ms remaining: 1.1s
397: learn: 0.3450602 total: 729ms remaining: 1.1s
398: learn: 0.3449942 total: 731ms remaining: 1.1s
399: learn: 0.3448581 total: 732ms remaining: 1.1s
400: learn: 0.3446772 total: 733ms remaining: 1.09s
401: learn: 0.3446028 total: 734ms remaining: 1.09s
402: learn: 0.3445120 total: 736ms remaining: 1.09s
403: learn: 0.3443324 total: 738ms remaining: 1.09s
404: learn: 0.3442000 total: 740ms remaining: 1.09s
405: learn: 0.3439765 total: 741ms remaining: 1.08s
406: learn: 0.3438343 total: 743ms remaining: 1.08s
407: learn: 0.3437724 total: 744ms remaining: 1.08s
408: learn: 0.3435785 total: 746ms remaining: 1.08s
409: learn: 0.3435280 total: 747ms remaining: 1.07s
410: learn: 0.3432855 total: 748ms remaining: 1.07s
411: learn: 0.3431629 total: 750ms remaining: 1.07s
412: learn: 0.3430066 total: 752ms remaining: 1.07s
413: learn: 0.3427844 total: 754ms remaining: 1.07s
414: learn: 0.3426802 total: 758ms remaining: 1.07s
415: learn: 0.3425059 total: 760ms remaining: 1.07s
416: learn: 0.3423659 total: 763ms remaining: 1.07s
417: learn: 0.3422160 total: 765ms remaining: 1.06s
418: learn: 0.3420803 total: 766ms remaining: 1.06s
419: learn: 0.3419993 total: 768ms remaining: 1.06s
420: learn: 0.3419029 total: 769ms remaining: 1.06s
421: learn: 0.3418046 total: 771ms remaining: 1.06s
422: learn: 0.3417969 total: 772ms remaining: 1.05s
423: learn: 0.3416581 total: 774ms remaining: 1.05s
424: learn: 0.3414220 total: 776ms remaining: 1.05s
425: learn: 0.3412690 total: 778ms remaining: 1.05s
426: learn: 0.3411438 total: 781ms remaining: 1.05s
427: learn: 0.3410305 total: 785ms remaining: 1.05s
428: learn: 0.3409242 total: 787ms remaining: 1.05s
429: learn: 0.3407426 total: 791ms remaining: 1.05s
430: learn: 0.3404514 total: 795ms remaining: 1.05s
431: learn: 0.3402711 total: 796ms remaining: 1.05s
432: learn: 0.3400299 total: 799ms remaining: 1.04s
433: learn: 0.3399553 total: 802ms remaining: 1.04s
434: learn: 0.3398649 total: 803ms remaining: 1.04s
435: learn: 0.3396693 total: 805ms remaining: 1.04s
436: learn: 0.3393835 total: 806ms remaining: 1.04s
437: learn: 0.3392683 total: 808ms remaining: 1.04s
438: learn: 0.3391512 total: 811ms remaining: 1.04s
439: learn: 0.3390787 total: 813ms remaining: 1.03s
440: learn: 0.3390219 total: 816ms remaining: 1.03s
441: learn: 0.3389026 total: 818ms remaining: 1.03s
^C

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442: learn: 0.3381269 total: 822ms remaining: 1.03s
443: learn: 0.3386362 total: 824ms remaining: 1.03s
444: learn: 0.3386142 total: 826ms remaining: 1.03s
445: learn: 0.3384830 total: 827ms remaining: 1.03s
446: learn: 0.3384172 total: 829ms remaining: 1.02s
447: learn: 0.3382357 total: 831ms remaining: 1.02s
448: learn: 0.3380844 total: 833ms remaining: 1.02s
449: learn: 0.3380459 total: 834ms remaining: 1.02s
450: learn: 0.3378721 total: 837ms remaining: 1.02s
451: learn: 0.3377177 total: 839ms remaining: 1.02s
452: learn: 0.3375924 total: 842ms remaining: 1.02s
453: learn: 0.3375381 total: 844ms remaining: 1.01s
454: learn: 0.3374388 total: 845ms remaining: 1.01s
455: learn: 0.3372863 total: 847ms remaining: 1.01s
456: learn: 0.3371957 total: 849ms remaining: 1.01s
457: learn: 0.3370836 total: 851ms remaining: 1.01s
458: learn: 0.3370472 total: 852ms remaining: 1s
459: learn: 0.3369680 total: 854ms remaining: 1s
460: learn: 0.3368219 total: 855ms remaining: 1s
461: learn: 0.3368100 total: 857ms remaining: 998ms
462: learn: 0.3367361 total: 858ms remaining: 995ms
463: learn: 0.3366642 total: 860ms remaining: 993ms
464: learn: 0.3364758 total: 861ms remaining: 991ms
465: learn: 0.3362795 total: 863ms remaining: 989ms
466: learn: 0.3362252 total: 864ms remaining: 986ms
467: learn: 0.3361760 total: 866ms remaining: 984ms
468: learn: 0.3360965 total: 867ms remaining: 982ms
469: learn: 0.3360243 total: 868ms remaining: 979ms
470: learn: 0.3358716 total: 872ms remaining: 980ms
471: learn: 0.3357994 total: 874ms remaining: 978ms
472: learn: 0.3355945 total: 877ms remaining: 977ms
473: learn: 0.3354244 total: 882ms remaining: 978ms
474: learn: 0.3353298 total: 884ms remaining: 977ms
475: learn: 0.3353047 total: 886ms remaining: 976ms
476: learn: 0.3352547 total: 888ms remaining: 974ms
477: learn: 0.3351099 total: 890ms remaining: 971ms
478: learn: 0.3350389 total: 891ms remaining: 969ms
479: learn: 0.3349431 total: 893ms remaining: 967ms
480: learn: 0.3348062 total: 895ms remaining: 966ms
481: learn: 0.3346852 total: 896ms remaining: 963ms
482: learn: 0.3343779 total: 898ms remaining: 961ms
483: learn: 0.3342275 total: 901ms remaining: 961ms
484: learn: 0.3341624 total: 903ms remaining: 959ms
485: learn: 0.3339110 total: 906ms remaining: 958ms
486: learn: 0.3338377 total: 908ms remaining: 957ms
487: learn: 0.3336404 total: 911ms remaining: 955ms
488: learn: 0.3335167 total: 913ms remaining: 954ms
489: learn: 0.3334720 total: 914ms remaining: 952ms
490: learn: 0.3333374 total: 916ms remaining: 950ms
491: learn: 0.3332387 total: 919ms remaining: 949ms
492: learn: 0.3330928 total: 920ms remaining: 947ms
493: learn: 0.3329811 total: 922ms remaining: 944ms
494: learn: 0.3328719 total: 924ms remaining: 943ms
495: learn: 0.3327879 total: 926ms remaining: 941ms
496: learn: 0.3326249 total: 929ms remaining: 940ms
497: learn: 0.3325253 total: 931ms remaining: 938ms
498: learn: 0.3324646 total: 933ms remaining: 936ms
499: learn: 0.3322957 total: 935ms remaining: 935ms
500: learn: 0.3322296 total: 936ms remaining: 932ms
501: learn: 0.3321934 total: 937ms remaining: 930ms
502: learn: 0.3320217 total: 939ms remaining: 928ms
503: learn: 0.3319599 total: 941ms remaining: 926ms
504: learn: 0.3319133 total: 944ms remaining: 925ms
505: learn: 0.3318552 total: 945ms remaining: 923ms
506: learn: 0.3317791 total: 947ms remaining: 921ms
507: learn: 0.3316517 total: 950ms remaining: 920ms
508: learn: 0.3315958 total: 952ms remaining: 919ms
509: learn: 0.3314486 total: 956ms remaining: 918ms
510: learn: 0.3313747 total: 957ms remaining: 916ms
511: learn: 0.3312151 total: 961ms remaining: 916ms
512: learn: 0.3309990 total: 964ms remaining: 915ms
513: learn: 0.3309439 total: 967ms remaining: 914ms
```

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514: learn: 0.3306297 total: 969ms remaining: 913ms
515: learn: 0.3306136 total: 972ms remaining: 912ms
516: learn: 0.3305037 total: 975ms remaining: 911ms
517: learn: 0.3303814 total: 980ms remaining: 911ms
518: learn: 0.3302647 total: 983ms remaining: 911ms
519: learn: 0.3301129 total: 984ms remaining: 909ms
520: learn: 0.3300615 total: 990ms remaining: 910ms
521: learn: 0.3299658 total: 991ms remaining: 908ms
522: learn: 0.3297616 total: 993ms remaining: 905ms
523: learn: 0.3296575 total: 996ms remaining: 905ms
524: learn: 0.3295952 total: 1s remaining: 905ms
525: learn: 0.3295064 total: 1s remaining: 905ms
526: learn: 0.3293103 total: 1.01s remaining: 904ms
527: learn: 0.3291750 total: 1.01s remaining: 903ms
528: learn: 0.3291397 total: 1.01s remaining: 902ms
529: learn: 0.3289958 total: 1.01s remaining: 901ms
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531: learn: 0.3289069 total: 1.02s remaining: 898ms
532: learn: 0.3288397 total: 1.02s remaining: 896ms
533: learn: 0.3287154 total: 1.02s remaining: 894ms
534: learn: 0.3286498 total: 1.02s remaining: 892ms
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536: learn: 0.3285265 total: 1.03s remaining: 887ms
537: learn: 0.3283293 total: 1.03s remaining: 885ms
538: learn: 0.3282699 total: 1.03s remaining: 883ms
539: learn: 0.3282013 total: 1.03s remaining: 881ms
540: learn: 0.3280743 total: 1.03s remaining: 878ms
541: learn: 0.3279502 total: 1.04s remaining: 876ms
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545: learn: 0.3274997 total: 1.04s remaining: 866ms
546: learn: 0.3274526 total: 1.04s remaining: 864ms
547: learn: 0.3273757 total: 1.04s remaining: 862ms
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549: learn: 0.3270782 total: 1.05s remaining: 858ms
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551: learn: 0.3268828 total: 1.05s remaining: 854ms
552: learn: 0.3268101 total: 1.05s remaining: 853ms
553: learn: 0.3266768 total: 1.06s remaining: 851ms
554: learn: 0.3265263 total: 1.06s remaining: 849ms
555: learn: 0.3264190 total: 1.06s remaining: 847ms
556: learn: 0.3263970 total: 1.06s remaining: 844ms
557: learn: 0.3263236 total: 1.06s remaining: 842ms
558: learn: 0.3262689 total: 1.06s remaining: 840ms
559: learn: 0.3259962 total: 1.07s remaining: 838ms
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561: learn: 0.3256720 total: 1.07s remaining: 835ms
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569: learn: 0.3250869 total: 1.09s remaining: 822ms
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571: learn: 0.3249238 total: 1.09s remaining: 818ms
572: learn: 0.3248771 total: 1.09s remaining: 816ms
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574: learn: 0.3246306 total: 1.1s remaining: 813ms
575: learn: 0.3245354 total: 1.1s remaining: 811ms
576: learn: 0.3244593 total: 1.1s remaining: 809ms
577: learn: 0.3243497 total: 1.1s remaining: 807ms
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579: learn: 0.3241780 total: 1.11s remaining: 803ms
580: learn: 0.3241649 total: 1.11s remaining: 800ms
581: learn: 0.3241125 total: 1.11s remaining: 799ms
582: learn: 0.3240451 total: 1.11s remaining: 798ms
583: learn: 0.3239791 total: 1.12s remaining: 796ms
584: learn: 0.3239787 total: 1.12s remaining: 793ms
585: learn: 0.3239009 total: 1.12s remaining: 791ms
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586: learn: 0.3231443 total: 1.12s remaining: 189ms
587: learn: 0.3237427 total: 1.12s remaining: 787ms
588: learn: 0.3236262 total: 1.13s remaining: 785ms
589: learn: 0.3236004 total: 1.13s remaining: 783ms
590: learn: 0.3233587 total: 1.13s remaining: 782ms
591: learn: 0.3232687 total: 1.14s remaining: 783ms
592: learn: 0.3230624 total: 1.14s remaining: 782ms
593: learn: 0.3229166 total: 1.14s remaining: 780ms
594: learn: 0.3229072 total: 1.14s remaining: 777ms
595: learn: 0.3227935 total: 1.14s remaining: 775ms
596: learn: 0.3226368 total: 1.15s remaining: 773ms
597: learn: 0.3225367 total: 1.15s remaining: 772ms
598: learn: 0.3224127 total: 1.15s remaining: 770ms
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615: learn: 0.3207530 total: 1.18s remaining: 738ms
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617: learn: 0.3204250 total: 1.19s remaining: 734ms
618: learn: 0.3203607 total: 1.19s remaining: 733ms
619: learn: 0.3202802 total: 1.19s remaining: 730ms
620: learn: 0.3202035 total: 1.2s remaining: 729ms
621: learn: 0.3201484 total: 1.2s remaining: 728ms
622: learn: 0.3200640 total: 1.2s remaining: 725ms
623: learn: 0.3200088 total: 1.2s remaining: 723ms
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627: learn: 0.3195356 total: 1.21s remaining: 716ms
628: learn: 0.3193842 total: 1.21s remaining: 714ms
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630: learn: 0.3192056 total: 1.22s remaining: 711ms
631: learn: 0.3191033 total: 1.22s remaining: 709ms
632: learn: 0.3190247 total: 1.22s remaining: 708ms
633: learn: 0.3189199 total: 1.22s remaining: 706ms
634: learn: 0.3188687 total: 1.22s remaining: 704ms
635: learn: 0.3188398 total: 1.23s remaining: 703ms
636: learn: 0.3188323 total: 1.23s remaining: 702ms
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639: learn: 0.3185775 total: 1.24s remaining: 696ms
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644: learn: 0.3181563 total: 1.25s remaining: 687ms
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648: learn: 0.3176311 total: 1.25s remaining: 678ms
649: learn: 0.3176201 total: 1.25s remaining: 676ms
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653: learn: 0.3173207 total: 1.26s remaining: 667ms
654: learn: 0.3172030 total: 1.26s remaining: 665ms
655: learn: 0.3171169 total: 1.26s remaining: 663ms
656: learn: 0.3170773 total: 1.26s remaining: 661ms
657: learn: 0.3168173 total: 1.27s remaining: 659ms
658: learn: 0.3167521 total: 1.27s remaining: 657ms

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658: learn: 0.3161126 total: 1.27s remaining: 656ms
659: learn: 0.3167646 total: 1.27s remaining: 654ms
660: learn: 0.3165916 total: 1.27s remaining: 652ms
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662: learn: 0.3165059 total: 1.27s remaining: 648ms
663: learn: 0.3163539 total: 1.28s remaining: 646ms
664: learn: 0.3162496 total: 1.28s remaining: 644ms
665: learn: 0.3160237 total: 1.28s remaining: 642ms
666: learn: 0.3159485 total: 1.28s remaining: 640ms
667: learn: 0.3158230 total: 1.28s remaining: 638ms
668: learn: 0.3157520 total: 1.28s remaining: 636ms
669: learn: 0.3156811 total: 1.29s remaining: 634ms
670: learn: 0.3154506 total: 1.29s remaining: 632ms
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697: learn: 0.3121980 total: 1.33s remaining: 576ms
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699: learn: 0.3120072 total: 1.33s remaining: 572ms
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705: learn: 0.3116253 total: 1.34s remaining: 559ms
706: learn: 0.3115164 total: 1.34s remaining: 557ms
707: learn: 0.3114295 total: 1.35s remaining: 555ms
708: learn: 0.3113896 total: 1.35s remaining: 553ms
709: learn: 0.3113297 total: 1.35s remaining: 551ms
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712: learn: 0.3110001 total: 1.35s remaining: 545ms
713: learn: 0.3108945 total: 1.35s remaining: 543ms
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715: learn: 0.3105758 total: 1.36s remaining: 538ms
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717: learn: 0.3103944 total: 1.36s remaining: 534ms
718: learn: 0.3103577 total: 1.36s remaining: 532ms
719: learn: 0.3102467 total: 1.36s remaining: 530ms
720: learn: 0.3101736 total: 1.36s remaining: 528ms
721: learn: 0.3100537 total: 1.36s remaining: 526ms
722: learn: 0.3099320 total: 1.37s remaining: 524ms
723: learn: 0.3098830 total: 1.37s remaining: 522ms
724: learn: 0.3095906 total: 1.37s remaining: 520ms
725: learn: 0.3095087 total: 1.37s remaining: 518ms
726: learn: 0.3094062 total: 1.37s remaining: 516ms
727: learn: 0.3093059 total: 1.38s remaining: 514ms
728: learn: 0.3092300 total: 1.38s remaining: 512ms
729: learn: 0.3092047 total: 1.38s remaining: 510ms
730: learn: 0.3091800 total: 1.38s remaining: 508ms
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130: learn: 0.3091858 total: 1.38s remaining: 508ms
731: learn: 0.3091144 total: 1.38s remaining: 506ms
732: learn: 0.3088853 total: 1.38s remaining: 504ms
733: learn: 0.3086781 total: 1.38s remaining: 502ms
734: learn: 0.3086326 total: 1.39s remaining: 500ms
735: learn: 0.3085422 total: 1.39s remaining: 498ms
736: learn: 0.3084817 total: 1.39s remaining: 496ms
737: learn: 0.3082591 total: 1.39s remaining: 494ms
738: learn: 0.3082563 total: 1.39s remaining: 491ms
739: learn: 0.3082271 total: 1.39s remaining: 489ms
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741: learn: 0.3080508 total: 1.4s remaining: 485ms
742: learn: 0.3079073 total: 1.4s remaining: 484ms
743: learn: 0.3077208 total: 1.4s remaining: 482ms
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745: learn: 0.3074225 total: 1.4s remaining: 478ms
746: learn: 0.3073579 total: 1.4s remaining: 476ms
747: learn: 0.3072127 total: 1.41s remaining: 474ms
748: learn: 0.3070734 total: 1.41s remaining: 473ms
749: learn: 0.3070230 total: 1.41s remaining: 470ms
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752: learn: 0.3066708 total: 1.42s remaining: 465ms
753: learn: 0.3066043 total: 1.42s remaining: 463ms
754: learn: 0.3064645 total: 1.42s remaining: 461ms
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760: learn: 0.3057412 total: 1.43s remaining: 449ms
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762: learn: 0.3054609 total: 1.43s remaining: 445ms
763: learn: 0.3053485 total: 1.43s remaining: 443ms
764: learn: 0.3052930 total: 1.44s remaining: 441ms
765: learn: 0.3051876 total: 1.44s remaining: 439ms
766: learn: 0.3051259 total: 1.44s remaining: 437ms
767: learn: 0.3050669 total: 1.44s remaining: 435ms
768: learn: 0.3049903 total: 1.44s remaining: 433ms
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794: learn: 0.3021937 total: 1.49s remaining: 383ms
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815: learn: 0.2999471 total: 1.52s remaining: 342ms
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979: learn: 0.2867568 total: 1.6s remaining: 20ms
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988: learn: 0.2860547 total: 1.6s remaining: 2ms
989: learn: 0.2859768 total: 1.6s remaining: 0ms

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874: learn: 0.2939510 total: 1.6s remaining: 229ms
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942: learn: 0.2875931 total: 1.7s remaining: 103ms
943: learn: 0.2875435 total: 1.7s remaining: 101ms
944: learn: 0.2875103 total: 1.71s remaining: 99.3ms
945: learn: 0.2874394 total: 1.71s remaining: 97.5ms
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946: learn: 0.2812882 total: 1.71s remaining: 95.6ms
947: learn: 0.2872233 total: 1.71s remaining: 93.8ms
948: learn: 0.2870986 total: 1.71s remaining: 92ms
949: learn: 0.2870594 total: 1.71s remaining: 90.2ms
950: learn: 0.2869984 total: 1.72s remaining: 88.4ms
951: learn: 0.2869421 total: 1.72s remaining: 86.6ms
952: learn: 0.2868698 total: 1.72s remaining: 84.8ms
953: learn: 0.2868062 total: 1.72s remaining: 82.9ms
954: learn: 0.2867559 total: 1.72s remaining: 81.1ms
955: learn: 0.2866766 total: 1.72s remaining: 79.3ms
956: learn: 0.2865483 total: 1.72s remaining: 77.5ms
957: learn: 0.2864884 total: 1.73s remaining: 75.7ms
958: learn: 0.2864267 total: 1.73s remaining: 73.9ms
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965: learn: 0.2859279 total: 1.74s remaining: 61.2ms
966: learn: 0.2858955 total: 1.74s remaining: 59.4ms
967: learn: 0.2857737 total: 1.74s remaining: 57.5ms
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970: learn: 0.2854894 total: 1.74s remaining: 52.1ms
971: learn: 0.2854424 total: 1.75s remaining: 50.3ms
972: learn: 0.2852592 total: 1.75s remaining: 48.5ms
973: learn: 0.2851799 total: 1.75s remaining: 46.7ms
974: learn: 0.2849984 total: 1.75s remaining: 44.9ms
975: learn: 0.2849321 total: 1.75s remaining: 43.1ms
976: learn: 0.2849136 total: 1.75s remaining: 41.3ms
977: learn: 0.2847643 total: 1.76s remaining: 39.5ms
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979: learn: 0.2845011 total: 1.76s remaining: 35.9ms
980: learn: 0.2843430 total: 1.76s remaining: 34.1ms
981: learn: 0.2842028 total: 1.76s remaining: 32.3ms
982: learn: 0.2841577 total: 1.77s remaining: 30.5ms
983: learn: 0.2840650 total: 1.77s remaining: 28.7ms
984: learn: 0.2840147 total: 1.77s remaining: 27ms
985: learn: 0.2839225 total: 1.77s remaining: 25.1ms
986: learn: 0.2838433 total: 1.77s remaining: 23.3ms
987: learn: 0.2838127 total: 1.77s remaining: 21.6ms
988: learn: 0.2837646 total: 1.78s remaining: 19.8ms
989: learn: 0.2837450 total: 1.78s remaining: 18ms
990: learn: 0.2836436 total: 1.78s remaining: 16.2ms
991: learn: 0.2834878 total: 1.78s remaining: 14.4ms
992: learn: 0.2834355 total: 1.78s remaining: 12.6ms
993: learn: 0.2833390 total: 1.78s remaining: 10.8ms
994: learn: 0.2832964 total: 1.78s remaining: 8.96ms
995: learn: 0.2832752 total: 1.78s remaining: 7.17ms
996: learn: 0.2832541 total: 1.78s remaining: 5.37ms
997: learn: 0.2831142 total: 1.79s remaining: 3.58ms
998: learn: 0.2830096 total: 1.79s remaining: 1.79ms
999: learn: 0.2828315 total: 1.79s remaining: 0us
```

Out[33]:

```
<catboost.core.CatBoostClassifier at 0x7f7030221110>
```

In [34]:

```
from sklearn.metrics import confusion_matrix, accuracy_score
y_pred = classifier.predict(X_test)
cm = confusion_matrix(y_test, y_pred)
print(cm)
accuracy_score(y_test, y_pred)
```

```
[[246 20]
 [ 33 119]]
```

Out[34]:

```
0.8732057416267942
```

In [35]:

```
from sklearn.model_selection import cross_val_score
accuracies = cross_val_score(estimator = classifier, X = X_train, y = y_train, cv = 10)
print(f"Accuracy: {accuracies.mean()*100:.2f} %")
print(f"Standard Deviation: {accuracies.std()*100:.2f} %")
```

Learning rate set to 0.009371
0: learn: 0.6866322 total: 1.2ms remaining: 1.2s
1: learn: 0.6803065 total: 4.21ms remaining: 2.1s
2: learn: 0.6739883 total: 5.67ms remaining: 1.89s
3: learn: 0.6684859 total: 6.69ms remaining: 1.67s
4: learn: 0.6638792 total: 7.84ms remaining: 1.56s
5: learn: 0.6582615 total: 8.84ms remaining: 1.46s
6: learn: 0.6519204 total: 10.6ms remaining: 1.5s
7: learn: 0.6472030 total: 11.7ms remaining: 1.44s
8: learn: 0.6417917 total: 12.7ms remaining: 1.4s
9: learn: 0.6366876 total: 13.7ms remaining: 1.36s
10: learn: 0.6310864 total: 14.9ms remaining: 1.34s
11: learn: 0.6264440 total: 16.2ms remaining: 1.33s
12: learn: 0.6206705 total: 17.8ms remaining: 1.35s
13: learn: 0.6162711 total: 19.4ms remaining: 1.36s
14: learn: 0.6117522 total: 20.5ms remaining: 1.35s
15: learn: 0.6066985 total: 21.8ms remaining: 1.34s
16: learn: 0.6021443 total: 23.4ms remaining: 1.35s
17: learn: 0.5978724 total: 25.4ms remaining: 1.38s
18: learn: 0.5936013 total: 27ms remaining: 1.39s
19: learn: 0.5899146 total: 28.4ms remaining: 1.39s
20: learn: 0.5855852 total: 29.9ms remaining: 1.39s
21: learn: 0.5812729 total: 31.3ms remaining: 1.39s
22: learn: 0.5770898 total: 32.3ms remaining: 1.37s
23: learn: 0.5725943 total: 33.5ms remaining: 1.36s
24: learn: 0.5697810 total: 34.4ms remaining: 1.34s
25: learn: 0.5660255 total: 35.4ms remaining: 1.32s
26: learn: 0.5626572 total: 36.2ms remaining: 1.3s
27: learn: 0.5591110 total: 37.3ms remaining: 1.29s
28: learn: 0.5557371 total: 38.3ms remaining: 1.28s
29: learn: 0.5521325 total: 39.7ms remaining: 1.28s
30: learn: 0.5492923 total: 40.3ms remaining: 1.26s
31: learn: 0.5459209 total: 41.2ms remaining: 1.24s
32: learn: 0.5427880 total: 42.4ms remaining: 1.24s
33: learn: 0.5399703 total: 43.6ms remaining: 1.24s
34: learn: 0.5370432 total: 44.9ms remaining: 1.24s
35: learn: 0.5336640 total: 46.3ms remaining: 1.24s
36: learn: 0.5304668 total: 47.6ms remaining: 1.24s
37: learn: 0.5278045 total: 49.1ms remaining: 1.24s
38: learn: 0.5245767 total: 50.9ms remaining: 1.25s
39: learn: 0.5215203 total: 52.1ms remaining: 1.25s
40: learn: 0.5186470 total: 53.8ms remaining: 1.26s
41: learn: 0.5155543 total: 55ms remaining: 1.25s
42: learn: 0.5126405 total: 56.4ms remaining: 1.25s
43: learn: 0.5095484 total: 57.5ms remaining: 1.25s
44: learn: 0.5068655 total: 59.1ms remaining: 1.25s
45: learn: 0.5041593 total: 60.4ms remaining: 1.25s
46: learn: 0.5019132 total: 61.6ms remaining: 1.25s
47: learn: 0.4995020 total: 63.1ms remaining: 1.25s
48: learn: 0.4972458 total: 64.5ms remaining: 1.25s
49: learn: 0.4947412 total: 65.4ms remaining: 1.24s
50: learn: 0.4928500 total: 66.3ms remaining: 1.23s
51: learn: 0.4907150 total: 67.5ms remaining: 1.23s
52: learn: 0.4888831 total: 69ms remaining: 1.23s
53: learn: 0.4866955 total: 70.4ms remaining: 1.23s
54: learn: 0.4846002 total: 71.6ms remaining: 1.23s
55: learn: 0.4827038 total: 73.1ms remaining: 1.23s
56: learn: 0.4807241 total: 74.7ms remaining: 1.24s
57: learn: 0.4786525 total: 76ms remaining: 1.24s
58: learn: 0.4765340 total: 77ms remaining: 1.23s
59: learn: 0.4747017 total: 78.1ms remaining: 1.22s
60: learn: 0.4732239 total: 79ms remaining: 1.22s
61: learn: 0.4716235 total: 80.2ms remaining: 1.21s
62: learn: 0.4702161 total: 81.4ms remaining: 1.21s
63: learn: 0.4697177 total: 82.6ms remaining: 1.21s

55: learn: 0.400111 total: 82.9ms remaining: 1.21s
64: learn: 0.4667153 total: 84.2ms remaining: 1.21s
65: learn: 0.4650247 total: 85.2ms remaining: 1.21s
66: learn: 0.4633834 total: 86.2ms remaining: 1.2s
67: learn: 0.4614962 total: 87.6ms remaining: 1.2s
68: learn: 0.4596889 total: 89.1ms remaining: 1.2s
69: learn: 0.4579380 total: 90.3ms remaining: 1.2s
70: learn: 0.4562501 total: 91.5ms remaining: 1.2s
71: learn: 0.4546345 total: 92.6ms remaining: 1.19s
72: learn: 0.4528250 total: 93.9ms remaining: 1.19s
73: learn: 0.4513628 total: 95.5ms remaining: 1.19s
74: learn: 0.4496463 total: 96.7ms remaining: 1.19s
75: learn: 0.4487228 total: 97.5ms remaining: 1.19s
76: learn: 0.4475722 total: 98.7ms remaining: 1.18s
77: learn: 0.4461173 total: 99.9ms remaining: 1.18s
78: learn: 0.4450912 total: 101ms remaining: 1.18s
79: learn: 0.4439088 total: 102ms remaining: 1.18s
80: learn: 0.4426865 total: 103ms remaining: 1.17s
81: learn: 0.4416419 total: 105ms remaining: 1.17s
82: learn: 0.4403391 total: 106ms remaining: 1.17s
83: learn: 0.4392147 total: 107ms remaining: 1.17s
84: learn: 0.4377740 total: 109ms remaining: 1.17s
85: learn: 0.4366312 total: 110ms remaining: 1.17s
86: learn: 0.4353123 total: 111ms remaining: 1.17s
87: learn: 0.4344027 total: 112ms remaining: 1.16s
88: learn: 0.4332683 total: 113ms remaining: 1.16s
89: learn: 0.4323823 total: 114ms remaining: 1.16s
90: learn: 0.4313516 total: 116ms remaining: 1.16s
91: learn: 0.4302779 total: 118ms remaining: 1.17s
92: learn: 0.4292259 total: 120ms remaining: 1.17s
93: learn: 0.4281792 total: 121ms remaining: 1.16s
94: learn: 0.4273854 total: 122ms remaining: 1.16s
95: learn: 0.4269012 total: 123ms remaining: 1.16s
96: learn: 0.4258710 total: 124ms remaining: 1.16s
97: learn: 0.4247411 total: 125ms remaining: 1.15s
98: learn: 0.4235443 total: 127ms remaining: 1.15s
99: learn: 0.4230128 total: 128ms remaining: 1.15s
100: learn: 0.4222130 total: 129ms remaining: 1.15s
101: learn: 0.4215332 total: 130ms remaining: 1.14s
102: learn: 0.4204836 total: 131ms remaining: 1.14s
103: learn: 0.4196412 total: 132ms remaining: 1.13s
104: learn: 0.4187888 total: 133ms remaining: 1.13s
105: learn: 0.4177136 total: 134ms remaining: 1.13s
106: learn: 0.4166967 total: 135ms remaining: 1.13s
107: learn: 0.4158070 total: 136ms remaining: 1.13s
108: learn: 0.4147695 total: 138ms remaining: 1.13s
109: learn: 0.4137975 total: 139ms remaining: 1.13s
110: learn: 0.4135282 total: 140ms remaining: 1.12s
111: learn: 0.4127461 total: 142ms remaining: 1.13s
112: learn: 0.4118141 total: 144ms remaining: 1.13s
113: learn: 0.4111177 total: 145ms remaining: 1.13s
114: learn: 0.4104468 total: 147ms remaining: 1.13s
115: learn: 0.4095775 total: 148ms remaining: 1.13s
116: learn: 0.4089821 total: 149ms remaining: 1.13s
117: learn: 0.4083892 total: 151ms remaining: 1.13s
118: learn: 0.4077234 total: 152ms remaining: 1.13s
119: learn: 0.4069807 total: 154ms remaining: 1.13s
120: learn: 0.4063136 total: 156ms remaining: 1.14s
121: learn: 0.4060685 total: 157ms remaining: 1.13s
122: learn: 0.4058672 total: 158ms remaining: 1.13s
123: learn: 0.4052797 total: 159ms remaining: 1.12s
124: learn: 0.4043669 total: 160ms remaining: 1.12s
125: learn: 0.4037907 total: 162ms remaining: 1.12s
126: learn: 0.4033940 total: 163ms remaining: 1.12s
127: learn: 0.4025375 total: 164ms remaining: 1.12s
128: learn: 0.4019050 total: 166ms remaining: 1.12s
129: learn: 0.4014882 total: 168ms remaining: 1.12s
130: learn: 0.4009411 total: 170ms remaining: 1.12s
131: learn: 0.4007408 total: 170ms remaining: 1.12s
132: learn: 0.4001575 total: 171ms remaining: 1.12s
133: learn: 0.3996032 total: 173ms remaining: 1.11s
134: learn: 0.3992553 total: 175ms remaining: 1.12s
135: learn: 0.3990550 total: 177ms remaining: 1.12s

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155: learn: 0.3988050 total: 111ms remaining: 1.12s
136: learn: 0.3983379 total: 178ms remaining: 1.12s
137: learn: 0.3976958 total: 180ms remaining: 1.13s
138: learn: 0.3975119 total: 182ms remaining: 1.12s
139: learn: 0.3969703 total: 184ms remaining: 1.13s
140: learn: 0.3964502 total: 188ms remaining: 1.15s
141: learn: 0.3961132 total: 190ms remaining: 1.15s
142: learn: 0.3955602 total: 191ms remaining: 1.15s
143: learn: 0.3949307 total: 192ms remaining: 1.14s
144: learn: 0.3943661 total: 194ms remaining: 1.14s
145: learn: 0.3939388 total: 195ms remaining: 1.14s
146: learn: 0.3936405 total: 197ms remaining: 1.14s
147: learn: 0.3932092 total: 199ms remaining: 1.14s
148: learn: 0.3926266 total: 200ms remaining: 1.14s
149: learn: 0.3921897 total: 202ms remaining: 1.14s
150: learn: 0.3917564 total: 204ms remaining: 1.15s
151: learn: 0.3913236 total: 206ms remaining: 1.15s
152: learn: 0.3908584 total: 208ms remaining: 1.15s
153: learn: 0.3903747 total: 210ms remaining: 1.15s
154: learn: 0.3899929 total: 211ms remaining: 1.15s
155: learn: 0.3896747 total: 213ms remaining: 1.15s
156: learn: 0.3893785 total: 215ms remaining: 1.15s
157: learn: 0.3887815 total: 216ms remaining: 1.15s
158: learn: 0.3882554 total: 218ms remaining: 1.16s
159: learn: 0.3879066 total: 220ms remaining: 1.16s
160: learn: 0.3875822 total: 223ms remaining: 1.16s
161: learn: 0.3869696 total: 224ms remaining: 1.16s
162: learn: 0.3866313 total: 226ms remaining: 1.16s
163: learn: 0.3863481 total: 228ms remaining: 1.16s
164: learn: 0.3861564 total: 230ms remaining: 1.16s
165: learn: 0.3858392 total: 231ms remaining: 1.16s
166: learn: 0.3853665 total: 233ms remaining: 1.16s
167: learn: 0.3851750 total: 236ms remaining: 1.17s
168: learn: 0.3848141 total: 238ms remaining: 1.17s
169: learn: 0.3844109 total: 240ms remaining: 1.17s
170: learn: 0.3840028 total: 242ms remaining: 1.18s
171: learn: 0.3837175 total: 245ms remaining: 1.18s
172: learn: 0.3832148 total: 247ms remaining: 1.18s
173: learn: 0.3826484 total: 250ms remaining: 1.19s
174: learn: 0.3822705 total: 252ms remaining: 1.19s
175: learn: 0.3818100 total: 254ms remaining: 1.19s
176: learn: 0.3813446 total: 256ms remaining: 1.19s
177: learn: 0.3810717 total: 258ms remaining: 1.19s
178: learn: 0.3808430 total: 260ms remaining: 1.19s
179: learn: 0.3803467 total: 261ms remaining: 1.19s
180: learn: 0.3802742 total: 263ms remaining: 1.19s
181: learn: 0.3800433 total: 264ms remaining: 1.19s
182: learn: 0.3797597 total: 265ms remaining: 1.18s
183: learn: 0.3795312 total: 267ms remaining: 1.18s
184: learn: 0.3792701 total: 268ms remaining: 1.18s
185: learn: 0.3788085 total: 271ms remaining: 1.19s
186: learn: 0.3784719 total: 272ms remaining: 1.18s
187: learn: 0.3783212 total: 274ms remaining: 1.18s
188: learn: 0.3780417 total: 275ms remaining: 1.18s
189: learn: 0.3778619 total: 277ms remaining: 1.18s
190: learn: 0.3775157 total: 278ms remaining: 1.18s
191: learn: 0.3771838 total: 281ms remaining: 1.18s
192: learn: 0.3769274 total: 283ms remaining: 1.18s
193: learn: 0.3766188 total: 284ms remaining: 1.18s
194: learn: 0.3764193 total: 287ms remaining: 1.19s
195: learn: 0.3763317 total: 289ms remaining: 1.19s
196: learn: 0.3761650 total: 292ms remaining: 1.19s
197: learn: 0.3756757 total: 295ms remaining: 1.2s
198: learn: 0.3753414 total: 297ms remaining: 1.19s
199: learn: 0.3749921 total: 298ms remaining: 1.19s
200: learn: 0.3746942 total: 300ms remaining: 1.19s
201: learn: 0.3743830 total: 302ms remaining: 1.19s
202: learn: 0.3742207 total: 304ms remaining: 1.19s
203: learn: 0.3737661 total: 306ms remaining: 1.19s
204: learn: 0.3735647 total: 308ms remaining: 1.2s
205: learn: 0.3731977 total: 310ms remaining: 1.19s
206: learn: 0.3730039 total: 311ms remaining: 1.19s
207: learn: 0.3727200 total: 314ms remaining: 1.19s
```

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207: learn: 0.35121289 total: 514ms remaining: 1.12s
208: learn: 0.3724378 total: 316ms remaining: 1.19s
209: learn: 0.3721981 total: 317ms remaining: 1.19s
210: learn: 0.3719212 total: 320ms remaining: 1.2s
211: learn: 0.3717674 total: 321ms remaining: 1.19s
212: learn: 0.3716722 total: 323ms remaining: 1.19s
213: learn: 0.3713092 total: 327ms remaining: 1.2s
214: learn: 0.3709834 total: 328ms remaining: 1.2s
215: learn: 0.3706737 total: 330ms remaining: 1.2s
216: learn: 0.3705502 total: 331ms remaining: 1.19s
217: learn: 0.3703124 total: 333ms remaining: 1.19s
218: learn: 0.3700832 total: 334ms remaining: 1.19s
219: learn: 0.3697619 total: 336ms remaining: 1.19s
220: learn: 0.3693968 total: 338ms remaining: 1.19s
221: learn: 0.3690281 total: 339ms remaining: 1.19s
222: learn: 0.3687856 total: 341ms remaining: 1.19s
223: learn: 0.3685008 total: 345ms remaining: 1.19s
224: learn: 0.3682537 total: 347ms remaining: 1.19s
225: learn: 0.3680167 total: 349ms remaining: 1.19s
226: learn: 0.3675853 total: 351ms remaining: 1.19s
227: learn: 0.3672898 total: 353ms remaining: 1.19s
228: learn: 0.3670515 total: 354ms remaining: 1.19s
229: learn: 0.3669265 total: 357ms remaining: 1.19s
230: learn: 0.3668634 total: 359ms remaining: 1.2s
231: learn: 0.3664694 total: 361ms remaining: 1.2s
232: learn: 0.3662497 total: 363ms remaining: 1.2s
233: learn: 0.3661310 total: 365ms remaining: 1.2s
234: learn: 0.3658097 total: 367ms remaining: 1.19s
235: learn: 0.3657539 total: 368ms remaining: 1.19s
236: learn: 0.3654582 total: 370ms remaining: 1.19s
237: learn: 0.3651339 total: 371ms remaining: 1.19s
238: learn: 0.3648937 total: 373ms remaining: 1.19s
239: learn: 0.3645583 total: 375ms remaining: 1.19s
240: learn: 0.3643508 total: 377ms remaining: 1.19s
241: learn: 0.3640816 total: 380ms remaining: 1.19s
242: learn: 0.3638171 total: 381ms remaining: 1.19s
243: learn: 0.3635370 total: 383ms remaining: 1.19s
244: learn: 0.3632662 total: 384ms remaining: 1.18s
245: learn: 0.3630184 total: 386ms remaining: 1.18s
246: learn: 0.3625362 total: 387ms remaining: 1.18s
247: learn: 0.3624200 total: 389ms remaining: 1.18s
248: learn: 0.3621019 total: 391ms remaining: 1.18s
249: learn: 0.3619688 total: 393ms remaining: 1.18s
250: learn: 0.3616753 total: 396ms remaining: 1.18s
251: learn: 0.3615536 total: 397ms remaining: 1.18s
252: learn: 0.3613944 total: 398ms remaining: 1.18s
253: learn: 0.3612078 total: 400ms remaining: 1.18s
254: learn: 0.3610581 total: 403ms remaining: 1.18s
255: learn: 0.3607842 total: 405ms remaining: 1.18s
256: learn: 0.3606072 total: 406ms remaining: 1.17s
257: learn: 0.3604876 total: 407ms remaining: 1.17s
258: learn: 0.3602884 total: 409ms remaining: 1.17s
259: learn: 0.3602353 total: 412ms remaining: 1.17s
260: learn: 0.3600041 total: 413ms remaining: 1.17s
261: learn: 0.3597466 total: 414ms remaining: 1.17s
262: learn: 0.3594413 total: 416ms remaining: 1.16s
263: learn: 0.3592286 total: 417ms remaining: 1.16s
264: learn: 0.3590810 total: 419ms remaining: 1.16s
265: learn: 0.3587912 total: 421ms remaining: 1.16s
266: learn: 0.3584478 total: 423ms remaining: 1.16s
267: learn: 0.3582100 total: 424ms remaining: 1.16s
268: learn: 0.3581380 total: 426ms remaining: 1.16s
269: learn: 0.3579809 total: 428ms remaining: 1.16s
270: learn: 0.3579250 total: 430ms remaining: 1.16s
271: learn: 0.3576972 total: 432ms remaining: 1.16s
272: learn: 0.3576095 total: 434ms remaining: 1.15s
273: learn: 0.3574268 total: 435ms remaining: 1.15s
274: learn: 0.3572057 total: 436ms remaining: 1.15s
275: learn: 0.3569277 total: 437ms remaining: 1.15s
276: learn: 0.3566909 total: 438ms remaining: 1.14s
277: learn: 0.3564853 total: 439ms remaining: 1.14s
278: learn: 0.3562068 total: 441ms remaining: 1.14s
279: ----- 0.3561070 +----- 1.14s
```

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279: learn: 0.3506100 total: 442ms remaining: 1.14s
280: learn: 0.3559586 total: 443ms remaining: 1.13s
281: learn: 0.3557458 total: 445ms remaining: 1.13s
282: learn: 0.3554378 total: 446ms remaining: 1.13s
283: learn: 0.3551428 total: 447ms remaining: 1.13s
284: learn: 0.3548431 total: 449ms remaining: 1.13s
285: learn: 0.3546940 total: 450ms remaining: 1.12s
286: learn: 0.3545353 total: 452ms remaining: 1.12s
287: learn: 0.3544062 total: 453ms remaining: 1.12s
288: learn: 0.3541948 total: 455ms remaining: 1.12s
289: learn: 0.3537990 total: 456ms remaining: 1.12s
290: learn: 0.3536517 total: 457ms remaining: 1.11s
291: learn: 0.3535799 total: 459ms remaining: 1.11s
292: learn: 0.3533856 total: 461ms remaining: 1.11s
293: learn: 0.3531893 total: 463ms remaining: 1.11s
294: learn: 0.3530907 total: 464ms remaining: 1.11s
295: learn: 0.3529737 total: 466ms remaining: 1.11s
296: learn: 0.3528434 total: 468ms remaining: 1.11s
297: learn: 0.3527790 total: 468ms remaining: 1.1s
298: learn: 0.3526130 total: 470ms remaining: 1.1s
299: learn: 0.3522900 total: 471ms remaining: 1.1s
300: learn: 0.3521331 total: 472ms remaining: 1.1s
301: learn: 0.3519747 total: 473ms remaining: 1.09s
302: learn: 0.3516795 total: 475ms remaining: 1.09s
303: learn: 0.3514939 total: 476ms remaining: 1.09s
304: learn: 0.3513314 total: 477ms remaining: 1.09s
305: learn: 0.3511884 total: 479ms remaining: 1.08s
306: learn: 0.3510266 total: 480ms remaining: 1.08s
307: learn: 0.3508582 total: 482ms remaining: 1.08s
308: learn: 0.3507157 total: 484ms remaining: 1.08s
309: learn: 0.3505746 total: 486ms remaining: 1.08s
310: learn: 0.3505254 total: 487ms remaining: 1.08s
311: learn: 0.3503528 total: 489ms remaining: 1.08s
312: learn: 0.3501979 total: 490ms remaining: 1.08s
313: learn: 0.3500241 total: 492ms remaining: 1.07s
314: learn: 0.3500163 total: 493ms remaining: 1.07s
315: learn: 0.3499458 total: 496ms remaining: 1.07s
316: learn: 0.3499384 total: 497ms remaining: 1.07s
317: learn: 0.3496748 total: 498ms remaining: 1.07s
318: learn: 0.3495031 total: 500ms remaining: 1.07s
319: learn: 0.3494318 total: 502ms remaining: 1.07s
320: learn: 0.3492968 total: 503ms remaining: 1.06s
321: learn: 0.3491933 total: 505ms remaining: 1.06s
322: learn: 0.3488833 total: 506ms remaining: 1.06s
323: learn: 0.3486326 total: 507ms remaining: 1.06s
324: learn: 0.3483697 total: 509ms remaining: 1.06s
325: learn: 0.3481024 total: 510ms remaining: 1.05s
326: learn: 0.3478639 total: 512ms remaining: 1.05s
327: learn: 0.3475913 total: 514ms remaining: 1.05s
328: learn: 0.3474438 total: 515ms remaining: 1.05s
329: learn: 0.3474303 total: 516ms remaining: 1.05s
330: learn: 0.3472574 total: 518ms remaining: 1.05s
331: learn: 0.3471872 total: 519ms remaining: 1.04s
332: learn: 0.3470049 total: 521ms remaining: 1.04s
333: learn: 0.3469766 total: 522ms remaining: 1.04s
334: learn: 0.3469488 total: 523ms remaining: 1.04s
335: learn: 0.3466953 total: 525ms remaining: 1.04s
336: learn: 0.3464754 total: 526ms remaining: 1.03s
337: learn: 0.3463213 total: 527ms remaining: 1.03s
338: learn: 0.3461882 total: 529ms remaining: 1.03s
339: learn: 0.3460671 total: 531ms remaining: 1.03s
340: learn: 0.3458293 total: 532ms remaining: 1.03s
341: learn: 0.3457990 total: 534ms remaining: 1.03s
342: learn: 0.3455172 total: 537ms remaining: 1.03s
343: learn: 0.3452707 total: 538ms remaining: 1.03s
344: learn: 0.3450478 total: 540ms remaining: 1.02s
345: learn: 0.3449413 total: 542ms remaining: 1.02s
346: learn: 0.3447703 total: 544ms remaining: 1.02s
347: learn: 0.3443111 total: 546ms remaining: 1.02s
348: learn: 0.3440413 total: 547ms remaining: 1.02s
349: learn: 0.3437399 total: 551ms remaining: 1.02s
350: learn: 0.3437028 total: 552ms remaining: 1.02s
351: ----- 0.3424500 +----- 554ms ----- 1.02s
```

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351: learn: 0.3454590 total: 554ms remaining: 1.02s
352: learn: 0.3433081 total: 556ms remaining: 1.02s
353: learn: 0.3431552 total: 558ms remaining: 1.02s
354: learn: 0.3430410 total: 560ms remaining: 1.02s
355: learn: 0.3429155 total: 561ms remaining: 1.01s
356: learn: 0.3427369 total: 563ms remaining: 1.01s
357: learn: 0.3425934 total: 564ms remaining: 1.01s
358: learn: 0.3424947 total: 566ms remaining: 1.01s
359: learn: 0.3421736 total: 569ms remaining: 1.01s
360: learn: 0.3420665 total: 571ms remaining: 1.01s
361: learn: 0.3420463 total: 572ms remaining: 1.01s
362: learn: 0.3419774 total: 574ms remaining: 1.01s
363: learn: 0.3416186 total: 576ms remaining: 1.01s
364: learn: 0.3414065 total: 578ms remaining: 1s
365: learn: 0.3412306 total: 580ms remaining: 1s
366: learn: 0.3411431 total: 581ms remaining: 1s
367: learn: 0.3411078 total: 583ms remaining: 1s
368: learn: 0.3409034 total: 584ms remaining: 999ms
369: learn: 0.3406960 total: 586ms remaining: 998ms
370: learn: 0.3405320 total: 588ms remaining: 996ms
371: learn: 0.3404759 total: 589ms remaining: 994ms
372: learn: 0.3402581 total: 591ms remaining: 993ms
373: learn: 0.3399476 total: 593ms remaining: 993ms
374: learn: 0.3398580 total: 595ms remaining: 992ms
375: learn: 0.3396868 total: 597ms remaining: 990ms
376: learn: 0.3395904 total: 599ms remaining: 989ms
377: learn: 0.3394245 total: 600ms remaining: 987ms
378: learn: 0.3392213 total: 602ms remaining: 986ms
379: learn: 0.3389375 total: 603ms remaining: 985ms
380: learn: 0.3387340 total: 606ms remaining: 984ms
381: learn: 0.3386083 total: 607ms remaining: 982ms
382: learn: 0.3385901 total: 608ms remaining: 979ms
383: learn: 0.3383155 total: 611ms remaining: 981ms
384: learn: 0.3383148 total: 612ms remaining: 978ms
385: learn: 0.3382990 total: 614ms remaining: 976ms
386: learn: 0.3381753 total: 616ms remaining: 976ms
387: learn: 0.3379518 total: 618ms remaining: 975ms
388: learn: 0.3378261 total: 621ms remaining: 975ms
389: learn: 0.3376331 total: 622ms remaining: 973ms
390: learn: 0.3375949 total: 623ms remaining: 971ms
391: learn: 0.3375721 total: 625ms remaining: 969ms
392: learn: 0.3374638 total: 627ms remaining: 969ms
393: learn: 0.3373540 total: 629ms remaining: 967ms
394: learn: 0.3371747 total: 630ms remaining: 965ms
395: learn: 0.3371344 total: 631ms remaining: 963ms
396: learn: 0.3368887 total: 634ms remaining: 963ms
397: learn: 0.3367477 total: 636ms remaining: 962ms
398: learn: 0.3365380 total: 638ms remaining: 961ms
399: learn: 0.3362668 total: 640ms remaining: 959ms
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401: learn: 0.3359231 total: 643ms remaining: 956ms
402: learn: 0.3358321 total: 644ms remaining: 954ms
403: learn: 0.3357070 total: 646ms remaining: 953ms
404: learn: 0.3354859 total: 647ms remaining: 951ms
405: learn: 0.3353808 total: 650ms remaining: 951ms
406: learn: 0.3351099 total: 653ms remaining: 951ms
407: learn: 0.3349826 total: 654ms remaining: 950ms
408: learn: 0.3348759 total: 656ms remaining: 948ms
409: learn: 0.3346739 total: 657ms remaining: 945ms
410: learn: 0.3345772 total: 658ms remaining: 943ms
411: learn: 0.3344370 total: 659ms remaining: 941ms
412: learn: 0.3343761 total: 661ms remaining: 939ms
413: learn: 0.3342522 total: 662ms remaining: 937ms
414: learn: 0.3340569 total: 663ms remaining: 935ms
415: learn: 0.3339512 total: 665ms remaining: 933ms
416: learn: 0.3338585 total: 667ms remaining: 932ms
417: learn: 0.3337515 total: 669ms remaining: 931ms
418: learn: 0.3336595 total: 671ms remaining: 930ms
419: learn: 0.3336327 total: 672ms remaining: 928ms
420: learn: 0.3335275 total: 673ms remaining: 926ms
421: learn: 0.3334201 total: 675ms remaining: 925ms
422: learn: 0.3333090 total: 676ms remaining: 923ms
423: learn: 0.3331955 total: 679ms remaining: 921ms
```

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425: learn: 0.3321055 total: 678ms remaining: 921ms
424: learn: 0.3329212 total: 679ms remaining: 919ms
425: learn: 0.3328139 total: 681ms remaining: 918ms
426: learn: 0.3326021 total: 683ms remaining: 916ms
427: learn: 0.3324750 total: 684ms remaining: 914ms
428: learn: 0.3321943 total: 685ms remaining: 912ms
429: learn: 0.3321723 total: 687ms remaining: 910ms
430: learn: 0.3320256 total: 688ms remaining: 909ms
431: learn: 0.3320088 total: 690ms remaining: 907ms
432: learn: 0.3318406 total: 691ms remaining: 905ms
433: learn: 0.3316162 total: 693ms remaining: 904ms
434: learn: 0.3314323 total: 695ms remaining: 902ms
435: learn: 0.3312320 total: 696ms remaining: 901ms
436: learn: 0.3311416 total: 702ms remaining: 904ms
437: learn: 0.3310296 total: 704ms remaining: 904ms
438: learn: 0.3308287 total: 708ms remaining: 905ms
439: learn: 0.3305554 total: 711ms remaining: 905ms
440: learn: 0.3303955 total: 714ms remaining: 905ms
441: learn: 0.3302939 total: 717ms remaining: 905ms
442: learn: 0.3302362 total: 719ms remaining: 904ms
443: learn: 0.3301651 total: 721ms remaining: 902ms
444: learn: 0.3299737 total: 722ms remaining: 901ms
445: learn: 0.3298661 total: 724ms remaining: 899ms
446: learn: 0.3297849 total: 725ms remaining: 897ms
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485: learn: 0.3248004 total: 785ms remaining: 831ms
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490: learn: 0.3243303 total: 793ms remaining: 822ms
491: learn: 0.3241551 total: 794ms remaining: 820ms
492: learn: 0.3241248 total: 796ms remaining: 819ms
493: learn: 0.3239247 total: 798ms remaining: 818ms
494: learn: 0.3238477 total: 800ms remaining: 817ms
495: learn: 0.3237200 total: 802ms remaining: 815ms
```

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500: learn: 0.3232926 total: 808ms remaining: 805ms
501: learn: 0.3231328 total: 809ms remaining: 803ms
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506: learn: 0.3224301 total: 818ms remaining: 795ms
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517: learn: 0.3211214 total: 833ms remaining: 775ms
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565: learn: 0.3152342 total: 905ms remaining: 694ms
566: learn: 0.3151041 total: 907ms remaining: 692ms
567: learn: 0.3150000 total: 909ms remaining: 690ms
```

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50: learn: 0.3150880 total: 908ms remaining: 691ms
568: learn: 0.3149350 total: 909ms remaining: 688ms
569: learn: 0.3147742 total: 910ms remaining: 687ms
570: learn: 0.3146759 total: 911ms remaining: 685ms
571: learn: 0.3145189 total: 912ms remaining: 683ms
572: learn: 0.3143916 total: 914ms remaining: 681ms
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579: learn: 0.3137351 total: 923ms remaining: 669ms
580: learn: 0.3136580 total: 925ms remaining: 667ms
581: learn: 0.3134959 total: 927ms remaining: 666ms
582: learn: 0.3133735 total: 928ms remaining: 664ms
583: learn: 0.3132123 total: 930ms remaining: 662ms
584: learn: 0.3130047 total: 931ms remaining: 661ms
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617: learn: 0.3093713 total: 977ms remaining: 604ms
618: learn: 0.3091435 total: 978ms remaining: 602ms
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623: learn: 0.3088365 total: 984ms remaining: 593ms
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625: learn: 0.3087053 total: 988ms remaining: 590ms
626: learn: 0.3083841 total: 989ms remaining: 588ms
627: learn: 0.3082674 total: 990ms remaining: 587ms
628: learn: 0.3081226 total: 992ms remaining: 585ms
629: learn: 0.3081000 total: 993ms remaining: 583ms
630: learn: 0.3078544 total: 994ms remaining: 581ms
631: learn: 0.3077416 total: 995ms remaining: 579ms
632: learn: 0.3076313 total: 996ms remaining: 577ms
633: learn: 0.3075711 total: 997ms remaining: 576ms
634: learn: 0.3075414 total: 998ms remaining: 574ms
635: learn: 0.3074773 total: 999ms remaining: 572ms
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637: learn: 0.3072099 total: 1s remaining: 568ms
638: learn: 0.3071945 total: 1s remaining: 566ms
639: learn: 0.3071822 total: 1s remaining: 564ms
```

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642: learn: 0.3067282 total: 1.01s remaining: 559ms
643: learn: 0.3066791 total: 1.01s remaining: 557ms
644: learn: 0.3066182 total: 1.01s remaining: 555ms
645: learn: 0.3065482 total: 1.01s remaining: 554ms
646: learn: 0.3065019 total: 1.01s remaining: 552ms
647: learn: 0.3064935 total: 1.01s remaining: 550ms
648: learn: 0.3062924 total: 1.01s remaining: 548ms
649: learn: 0.3062575 total: 1.01s remaining: 547ms
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653: learn: 0.3058632 total: 1.02s remaining: 540ms
654: learn: 0.3057670 total: 1.02s remaining: 538ms
655: learn: 0.3057054 total: 1.02s remaining: 537ms
656: learn: 0.3056712 total: 1.02s remaining: 535ms
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679: learn: 0.3032984 total: 1.05s remaining: 497ms
680: learn: 0.3031859 total: 1.06s remaining: 495ms
681: learn: 0.3031242 total: 1.06s remaining: 494ms
682: learn: 0.3028591 total: 1.06s remaining: 492ms
683: learn: 0.3027348 total: 1.06s remaining: 491ms
684: learn: 0.3027054 total: 1.06s remaining: 489ms
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688: learn: 0.3023540 total: 1.07s remaining: 483ms
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697: learn: 0.3012417 total: 1.08s remaining: 468ms
698: learn: 0.3011053 total: 1.08s remaining: 466ms
699: learn: 0.3010041 total: 1.08s remaining: 465ms
700: learn: 0.3009020 total: 1.08s remaining: 463ms
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703: learn: 0.3006857 total: 1.09s remaining: 458ms
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705: learn: 0.3004494 total: 1.09s remaining: 455ms
706: learn: 0.3002907 total: 1.09s remaining: 453ms
707: learn: 0.3002203 total: 1.09s remaining: 451ms
708: learn: 0.3001166 total: 1.09s remaining: 450ms
709: learn: 0.3000356 total: 1.1s remaining: 448ms
710: learn: 0.2999635 total: 1.1s remaining: 446ms
711: ----- 0.2000101 +----- 1.1 - ----- 445ms
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715: learn: 0.2993687 total: 1.1s remaining: 438ms
716: learn: 0.2991301 total: 1.11s remaining: 437ms
717: learn: 0.2990649 total: 1.11s remaining: 435ms
718: learn: 0.2989574 total: 1.11s remaining: 434ms
719: learn: 0.2989077 total: 1.11s remaining: 433ms
720: learn: 0.2987391 total: 1.11s remaining: 431ms
721: learn: 0.2986199 total: 1.11s remaining: 429ms
722: learn: 0.2984683 total: 1.12s remaining: 428ms
723: learn: 0.2983844 total: 1.12s remaining: 426ms
724: learn: 0.2981736 total: 1.12s remaining: 424ms
725: learn: 0.2981322 total: 1.12s remaining: 423ms
726: learn: 0.2980637 total: 1.12s remaining: 421ms
727: learn: 0.2980568 total: 1.12s remaining: 419ms
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731: learn: 0.2976106 total: 1.13s remaining: 413ms
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736: learn: 0.2972261 total: 1.13s remaining: 404ms
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742: learn: 0.2962990 total: 1.14s remaining: 394ms
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752: learn: 0.2955956 total: 1.15s remaining: 377ms
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756: learn: 0.2950820 total: 1.15s remaining: 371ms
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759: learn: 0.2947197 total: 1.16s remaining: 366ms
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766: learn: 0.2941618 total: 1.17s remaining: 354ms
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771: learn: 0.2936995 total: 1.17s remaining: 346ms
772: learn: 0.2935591 total: 1.17s remaining: 344ms
773: learn: 0.2934833 total: 1.17s remaining: 342ms
774: learn: 0.2933069 total: 1.17s remaining: 341ms
775: learn: 0.2930980 total: 1.18s remaining: 339ms
776: learn: 0.2930874 total: 1.18s remaining: 338ms
777: learn: 0.2930164 total: 1.18s remaining: 336ms
778: learn: 0.2926572 total: 1.18s remaining: 335ms
779: learn: 0.2924504 total: 1.18s remaining: 333ms
780: learn: 0.2923878 total: 1.18s remaining: 331ms
781: learn: 0.2923562 total: 1.18s remaining: 330ms
782: learn: 0.2922628 total: 1.18s remaining: 328ms
783: ----- 0.2921802 +----- 1.18s ----- 327ms
```

```
785: learn: 0.2919710 total: 1.19s remaining: 321ms
786: learn: 0.2919356 total: 1.19s remaining: 323ms
787: learn: 0.2918509 total: 1.19s remaining: 320ms
788: learn: 0.2917015 total: 1.19s remaining: 318ms
789: learn: 0.2915207 total: 1.19s remaining: 317ms
790: learn: 0.2914281 total: 1.19s remaining: 315ms
791: learn: 0.2913673 total: 1.19s remaining: 314ms
792: learn: 0.2911888 total: 1.2s remaining: 312ms
793: learn: 0.2910718 total: 1.2s remaining: 311ms
794: learn: 0.2909448 total: 1.2s remaining: 309ms
795: learn: 0.2909044 total: 1.2s remaining: 308ms
796: learn: 0.2908588 total: 1.2s remaining: 306ms
797: learn: 0.2907182 total: 1.2s remaining: 305ms
798: learn: 0.2905878 total: 1.21s remaining: 303ms
799: learn: 0.2905063 total: 1.21s remaining: 302ms
800: learn: 0.2903410 total: 1.21s remaining: 300ms
801: learn: 0.2902811 total: 1.21s remaining: 299ms
802: learn: 0.2900324 total: 1.21s remaining: 297ms
803: learn: 0.2899300 total: 1.21s remaining: 296ms
804: learn: 0.2898550 total: 1.21s remaining: 294ms
805: learn: 0.2898231 total: 1.22s remaining: 293ms
806: learn: 0.2896795 total: 1.22s remaining: 291ms
807: learn: 0.2894719 total: 1.22s remaining: 289ms
808: learn: 0.2894198 total: 1.22s remaining: 288ms
809: learn: 0.2892519 total: 1.22s remaining: 286ms
810: learn: 0.2892264 total: 1.22s remaining: 285ms
811: learn: 0.2891865 total: 1.22s remaining: 283ms
812: learn: 0.2890588 total: 1.22s remaining: 282ms
813: learn: 0.2889705 total: 1.23s remaining: 280ms
814: learn: 0.2888434 total: 1.23s remaining: 278ms
815: learn: 0.2887027 total: 1.23s remaining: 277ms
816: learn: 0.2885907 total: 1.23s remaining: 275ms
817: learn: 0.2885376 total: 1.23s remaining: 274ms
818: learn: 0.2884375 total: 1.23s remaining: 272ms
819: learn: 0.2881498 total: 1.23s remaining: 271ms
820: learn: 0.2880145 total: 1.24s remaining: 270ms
821: learn: 0.2878122 total: 1.24s remaining: 268ms
822: learn: 0.2877643 total: 1.24s remaining: 267ms
823: learn: 0.2876584 total: 1.24s remaining: 265ms
824: learn: 0.2875905 total: 1.24s remaining: 264ms
825: learn: 0.2875075 total: 1.24s remaining: 262ms
826: learn: 0.2873889 total: 1.25s remaining: 261ms
827: learn: 0.2871846 total: 1.25s remaining: 259ms
828: learn: 0.2870342 total: 1.25s remaining: 257ms
829: learn: 0.2868281 total: 1.25s remaining: 256ms
830: learn: 0.2866526 total: 1.25s remaining: 254ms
831: learn: 0.2865069 total: 1.25s remaining: 253ms
832: learn: 0.2864924 total: 1.25s remaining: 251ms
833: learn: 0.2864554 total: 1.25s remaining: 250ms
834: learn: 0.2864354 total: 1.25s remaining: 248ms
835: learn: 0.2862339 total: 1.26s remaining: 247ms
836: learn: 0.2861806 total: 1.26s remaining: 245ms
837: learn: 0.2860240 total: 1.26s remaining: 243ms
838: learn: 0.2859968 total: 1.26s remaining: 242ms
839: learn: 0.2857884 total: 1.26s remaining: 240ms
840: learn: 0.2857513 total: 1.26s remaining: 239ms
841: learn: 0.2856462 total: 1.26s remaining: 237ms
842: learn: 0.2855481 total: 1.26s remaining: 236ms
843: learn: 0.2855162 total: 1.27s remaining: 234ms
844: learn: 0.2853276 total: 1.27s remaining: 233ms
845: learn: 0.2851740 total: 1.27s remaining: 231ms
846: learn: 0.2850548 total: 1.27s remaining: 230ms
847: learn: 0.2848946 total: 1.27s remaining: 228ms
848: learn: 0.2848223 total: 1.27s remaining: 226ms
849: learn: 0.2847101 total: 1.27s remaining: 225ms
850: learn: 0.2846098 total: 1.27s remaining: 223ms
851: learn: 0.2845077 total: 1.28s remaining: 222ms
852: learn: 0.2842285 total: 1.28s remaining: 220ms
853: learn: 0.2841019 total: 1.28s remaining: 219ms
854: learn: 0.2840764 total: 1.28s remaining: 217ms
855: learn: 0.2840546 total: 1.28s remaining: 215ms
```

```
855: learn: 0.2840546 total: 1.28s remaining: 215ms
856: learn: 0.2838368 total: 1.28s remaining: 214ms
857: learn: 0.2838193 total: 1.28s remaining: 212ms
858: learn: 0.2837010 total: 1.28s remaining: 211ms
859: learn: 0.2835217 total: 1.28s remaining: 209ms
860: learn: 0.2834199 total: 1.28s remaining: 208ms
861: learn: 0.2831967 total: 1.29s remaining: 206ms
862: learn: 0.2831550 total: 1.29s remaining: 204ms
863: learn: 0.2830680 total: 1.29s remaining: 203ms
864: learn: 0.2828635 total: 1.29s remaining: 201ms
865: learn: 0.2827492 total: 1.29s remaining: 200ms
866: learn: 0.2826295 total: 1.29s remaining: 198ms
867: learn: 0.2825745 total: 1.29s remaining: 197ms
868: learn: 0.2825204 total: 1.29s remaining: 195ms
869: learn: 0.2824208 total: 1.29s remaining: 194ms
870: learn: 0.2823618 total: 1.3s remaining: 192ms
871: learn: 0.2822951 total: 1.3s remaining: 190ms
872: learn: 0.2821804 total: 1.3s remaining: 189ms
873: learn: 0.2820242 total: 1.3s remaining: 187ms
874: learn: 0.2818408 total: 1.3s remaining: 186ms
875: learn: 0.2817116 total: 1.3s remaining: 184ms
876: learn: 0.2816687 total: 1.3s remaining: 183ms
877: learn: 0.2814069 total: 1.3s remaining: 181ms
878: learn: 0.2812249 total: 1.3s remaining: 180ms
879: learn: 0.2811125 total: 1.3s remaining: 178ms
880: learn: 0.2808448 total: 1.31s remaining: 177ms
881: learn: 0.2806913 total: 1.31s remaining: 175ms
882: learn: 0.2805377 total: 1.31s remaining: 173ms
883: learn: 0.2804730 total: 1.31s remaining: 172ms
884: learn: 0.2804299 total: 1.31s remaining: 170ms
885: learn: 0.2803484 total: 1.31s remaining: 169ms
886: learn: 0.2802840 total: 1.31s remaining: 167ms
887: learn: 0.2802048 total: 1.31s remaining: 166ms
888: learn: 0.2800801 total: 1.32s remaining: 164ms
889: learn: 0.2800525 total: 1.32s remaining: 163ms
890: learn: 0.2798943 total: 1.32s remaining: 161ms
891: learn: 0.2797676 total: 1.32s remaining: 160ms
892: learn: 0.2797320 total: 1.32s remaining: 158ms
893: learn: 0.2796454 total: 1.32s remaining: 157ms
894: learn: 0.2796144 total: 1.32s remaining: 155ms
895: learn: 0.2795875 total: 1.33s remaining: 154ms
896: learn: 0.2794863 total: 1.33s remaining: 152ms
897: learn: 0.2793510 total: 1.33s remaining: 151ms
898: learn: 0.2792927 total: 1.33s remaining: 149ms
899: learn: 0.2792218 total: 1.33s remaining: 148ms
900: learn: 0.2790043 total: 1.33s remaining: 146ms
901: learn: 0.2789263 total: 1.33s remaining: 145ms
902: learn: 0.2788437 total: 1.33s remaining: 143ms
903: learn: 0.2787419 total: 1.34s remaining: 142ms
904: learn: 0.2786998 total: 1.34s remaining: 141ms
905: learn: 0.2785328 total: 1.34s remaining: 139ms
906: learn: 0.2784495 total: 1.34s remaining: 138ms
907: learn: 0.2783789 total: 1.34s remaining: 136ms
908: learn: 0.2781488 total: 1.34s remaining: 135ms
909: learn: 0.2780805 total: 1.35s remaining: 133ms
910: learn: 0.2780132 total: 1.35s remaining: 132ms
911: learn: 0.2778574 total: 1.35s remaining: 130ms
912: learn: 0.2777139 total: 1.35s remaining: 129ms
913: learn: 0.2775946 total: 1.35s remaining: 127ms
914: learn: 0.2774796 total: 1.35s remaining: 126ms
915: learn: 0.2773390 total: 1.35s remaining: 124ms
916: learn: 0.2772602 total: 1.35s remaining: 123ms
917: learn: 0.2772213 total: 1.36s remaining: 121ms
918: learn: 0.2771148 total: 1.36s remaining: 120ms
919: learn: 0.2770238 total: 1.36s remaining: 118ms
920: learn: 0.2769184 total: 1.36s remaining: 117ms
921: learn: 0.2768197 total: 1.36s remaining: 115ms
922: learn: 0.2767077 total: 1.36s remaining: 114ms
923: learn: 0.2765504 total: 1.36s remaining: 112ms
924: learn: 0.2764513 total: 1.36s remaining: 111ms
925: learn: 0.2764073 total: 1.37s remaining: 109ms
926: learn: 0.2763099 total: 1.37s remaining: 108ms
927: ----- 0.2762440 +----- 1.27+ ----- 106ms
```

```
921: learn: 0.27502448 total: 1.57s remaining: 100ms
922: learn: 0.2761309 total: 1.37s remaining: 105ms
923: learn: 0.2761128 total: 1.37s remaining: 103ms
924: learn: 0.2759837 total: 1.37s remaining: 102ms
925: learn: 0.2759300 total: 1.38s remaining: 100ms
926: learn: 0.2758425 total: 1.38s remaining: 99ms
927: learn: 0.2757389 total: 1.38s remaining: 97.6ms
928: learn: 0.2756831 total: 1.38s remaining: 96.3ms
929: learn: 0.2756318 total: 1.39s remaining: 94.8ms
930: learn: 0.2755359 total: 1.39s remaining: 93.3ms
931: learn: 0.2754243 total: 1.39s remaining: 91.8ms
932: learn: 0.2753836 total: 1.39s remaining: 90.3ms
933: learn: 0.2753634 total: 1.39s remaining: 88.8ms
934: learn: 0.2751481 total: 1.39s remaining: 87.3ms
935: learn: 0.2750398 total: 1.39s remaining: 85.8ms
936: learn: 0.2749574 total: 1.39s remaining: 84.3ms
937: learn: 0.2749185 total: 1.4s remaining: 82.8ms
938: learn: 0.2747569 total: 1.4s remaining: 81.3ms
939: learn: 0.2746904 total: 1.4s remaining: 79.8ms
940: learn: 0.2746389 total: 1.4s remaining: 78.4ms
941: learn: 0.2745153 total: 1.4s remaining: 77ms
942: learn: 0.2743404 total: 1.41s remaining: 75.6ms
943: learn: 0.2742543 total: 1.41s remaining: 74.1ms
944: learn: 0.2741030 total: 1.41s remaining: 72.6ms
945: learn: 0.2740529 total: 1.41s remaining: 71.1ms
946: learn: 0.2739489 total: 1.41s remaining: 69.6ms
947: learn: 0.2739113 total: 1.41s remaining: 68.1ms
948: learn: 0.2738736 total: 1.41s remaining: 66.6ms
949: learn: 0.2738292 total: 1.41s remaining: 65.1ms
950: learn: 0.2737795 total: 1.42s remaining: 63.6ms
951: learn: 0.2736460 total: 1.42s remaining: 62.1ms
952: learn: 0.2735819 total: 1.42s remaining: 60.6ms
953: learn: 0.2734369 total: 1.42s remaining: 59.1ms
954: learn: 0.2733214 total: 1.42s remaining: 57.6ms
955: learn: 0.2731804 total: 1.42s remaining: 56.2ms
956: learn: 0.2731074 total: 1.42s remaining: 54.7ms
957: learn: 0.2729551 total: 1.42s remaining: 53.2ms
958: learn: 0.2727924 total: 1.43s remaining: 51.7ms
959: learn: 0.2727373 total: 1.43s remaining: 50.2ms
960: learn: 0.2726714 total: 1.43s remaining: 48.7ms
961: learn: 0.2726189 total: 1.43s remaining: 47.3ms
962: learn: 0.2725352 total: 1.43s remaining: 45.8ms
963: learn: 0.2724914 total: 1.43s remaining: 44.3ms
964: learn: 0.2723580 total: 1.43s remaining: 42.8ms
965: learn: 0.2723038 total: 1.44s remaining: 41.3ms
966: learn: 0.2722158 total: 1.44s remaining: 39.9ms
967: learn: 0.2720550 total: 1.44s remaining: 38.4ms
968: learn: 0.2719136 total: 1.44s remaining: 36.9ms
969: learn: 0.2718534 total: 1.44s remaining: 35.4ms
970: learn: 0.2717702 total: 1.44s remaining: 34ms
971: learn: 0.2717359 total: 1.44s remaining: 32.5ms
972: learn: 0.2715795 total: 1.45s remaining: 31ms
973: learn: 0.2715041 total: 1.45s remaining: 29.5ms
974: learn: 0.2713354 total: 1.45s remaining: 28ms
975: learn: 0.2711542 total: 1.45s remaining: 26.6ms
976: learn: 0.2711222 total: 1.45s remaining: 25.1ms
977: learn: 0.2708870 total: 1.45s remaining: 23.6ms
978: learn: 0.2708274 total: 1.45s remaining: 22.1ms
979: learn: 0.2706294 total: 1.45s remaining: 20.6ms
980: learn: 0.2705418 total: 1.45s remaining: 19.2ms
981: learn: 0.2704861 total: 1.46s remaining: 17.7ms
982: learn: 0.2703693 total: 1.46s remaining: 16.2ms
983: learn: 0.2701897 total: 1.46s remaining: 14.7ms
984: learn: 0.2699013 total: 1.46s remaining: 13.2ms
985: learn: 0.2698496 total: 1.46s remaining: 11.8ms
986: learn: 0.2696615 total: 1.46s remaining: 10.3ms
987: learn: 0.2694552 total: 1.46s remaining: 8.82ms
988: learn: 0.2694143 total: 1.46s remaining: 7.35ms
989: learn: 0.2693065 total: 1.46s remaining: 5.88ms
990: learn: 0.2692690 total: 1.46s remaining: 4.41ms
991: learn: 0.2691847 total: 1.47s remaining: 2.94ms
992: learn: 0.2691536 total: 1.47s remaining: 1.47ms
993: learn: 0.2690617 total: 1.47s remaining: 0ms
```

```
999: learn: 0.209004 / total: 1.47s remaining: 0.0s
Learning rate set to 0.009376
0: learn: 0.6868418 total: 1.08ms remaining: 1.08s
1: learn: 0.6833874 total: 2ms remaining: 996ms
2: learn: 0.6778946 total: 3.33ms remaining: 1.1s
3: learn: 0.6722853 total: 4.51ms remaining: 1.12s
4: learn: 0.6661454 total: 5.72ms remaining: 1.14s
5: learn: 0.6609535 total: 6.92ms remaining: 1.15s
6: learn: 0.6563493 total: 7.76ms remaining: 1.1s
7: learn: 0.6504827 total: 8.91ms remaining: 1.1s
8: learn: 0.6453381 total: 10.1ms remaining: 1.12s
9: learn: 0.6401435 total: 11.1ms remaining: 1.1s
10: learn: 0.6347958 total: 12ms remaining: 1.07s
11: learn: 0.6297882 total: 13ms remaining: 1.07s
12: learn: 0.6250768 total: 14ms remaining: 1.06s
13: learn: 0.6198854 total: 14.9ms remaining: 1.05s
14: learn: 0.6149200 total: 16.1ms remaining: 1.05s
15: learn: 0.6103136 total: 17.1ms remaining: 1.05s
16: learn: 0.6064423 total: 18.2ms remaining: 1.05s
17: learn: 0.6025036 total: 19ms remaining: 1.03s
18: learn: 0.5984738 total: 20.4ms remaining: 1.05s
19: learn: 0.5939983 total: 21.8ms remaining: 1.07s
20: learn: 0.5902513 total: 22.8ms remaining: 1.06s
21: learn: 0.5861924 total: 24.7ms remaining: 1.1s
22: learn: 0.5821795 total: 28.1ms remaining: 1.19s
23: learn: 0.5781972 total: 29.5ms remaining: 1.2s
24: learn: 0.5741477 total: 30.8ms remaining: 1.2s
25: learn: 0.5702324 total: 32ms remaining: 1.2s
26: learn: 0.5665443 total: 33.5ms remaining: 1.21s
27: learn: 0.5625390 total: 34.7ms remaining: 1.21s
28: learn: 0.5586521 total: 35.9ms remaining: 1.2s
29: learn: 0.5556757 total: 37.2ms remaining: 1.2s
30: learn: 0.5521075 total: 38.1ms remaining: 1.19s
31: learn: 0.5493518 total: 38.6ms remaining: 1.17s
32: learn: 0.5463005 total: 39.4ms remaining: 1.15s
33: learn: 0.5436384 total: 40.1ms remaining: 1.14s
34: learn: 0.5408573 total: 41ms remaining: 1.13s
35: learn: 0.5377949 total: 41.8ms remaining: 1.12s
36: learn: 0.5355091 total: 42.5ms remaining: 1.1s
37: learn: 0.5322826 total: 43.2ms remaining: 1.09s
38: learn: 0.5294978 total: 44ms remaining: 1.08s
39: learn: 0.5269069 total: 44.8ms remaining: 1.07s
40: learn: 0.5244387 total: 45.5ms remaining: 1.06s
41: learn: 0.5231284 total: 45.9ms remaining: 1.05s
42: learn: 0.5210487 total: 46.7ms remaining: 1.04s
43: learn: 0.5191503 total: 47.2ms remaining: 1.02s
44: learn: 0.5166341 total: 47.9ms remaining: 1.02s
45: learn: 0.5143165 total: 48.8ms remaining: 1.01s
46: learn: 0.5117222 total: 49.5ms remaining: 1s
47: learn: 0.5092299 total: 50.4ms remaining: 999ms
48: learn: 0.5073194 total: 50.9ms remaining: 989ms
49: learn: 0.5048033 total: 51.7ms remaining: 982ms
50: learn: 0.5027922 total: 52.6ms remaining: 978ms
51: learn: 0.5005141 total: 53.3ms remaining: 973ms
52: learn: 0.4983213 total: 54.2ms remaining: 968ms
53: learn: 0.4963725 total: 55ms remaining: 963ms
54: learn: 0.4940487 total: 56.1ms remaining: 964ms
55: learn: 0.4921146 total: 57.2ms remaining: 964ms
56: learn: 0.4902801 total: 58ms remaining: 960ms
57: learn: 0.4884100 total: 58.8ms remaining: 956ms
58: learn: 0.4865410 total: 59.8ms remaining: 954ms
59: learn: 0.4846724 total: 60.7ms remaining: 950ms
60: learn: 0.4823885 total: 61.5ms remaining: 946ms
61: learn: 0.4810172 total: 62.1ms remaining: 940ms
62: learn: 0.4793027 total: 62.9ms remaining: 936ms
63: learn: 0.4771602 total: 64.8ms remaining: 948ms
64: learn: 0.4755174 total: 65.7ms remaining: 945ms
65: learn: 0.4738666 total: 67ms remaining: 949ms
66: learn: 0.4722676 total: 69ms remaining: 961ms
67: learn: 0.4703990 total: 70.3ms remaining: 963ms
68: learn: 0.4692707 total: 71.6ms remaining: 966ms
69: learn: 0.4674791 total: 72.7ms remaining: 966ms
70: learn: 0.4650071 total: 73.9ms remaining: 965ms
```

```
70: learn: 0.405909 total: 75.0ms remaining: 960ms
71: learn: 0.4641111 total: 75.7ms remaining: 976ms
72: learn: 0.4626425 total: 76.8ms remaining: 975ms
73: learn: 0.4609301 total: 78.1ms remaining: 978ms
74: learn: 0.4594530 total: 79.9ms remaining: 986ms
75: learn: 0.4582145 total: 81.3ms remaining: 988ms
76: learn: 0.4565713 total: 82.4ms remaining: 988ms
77: learn: 0.4551090 total: 83.6ms remaining: 988ms
78: learn: 0.4539982 total: 84.7ms remaining: 988ms
79: learn: 0.4532299 total: 86ms remaining: 989ms
80: learn: 0.4517586 total: 87.3ms remaining: 990ms
81: learn: 0.4508111 total: 88.4ms remaining: 990ms
82: learn: 0.4493661 total: 89.7ms remaining: 991ms
83: learn: 0.4478718 total: 91ms remaining: 992ms
84: learn: 0.4466388 total: 92.5ms remaining: 996ms
85: learn: 0.4456641 total: 93.8ms remaining: 997ms
86: learn: 0.4443949 total: 95.8ms remaining: 1s
87: learn: 0.4433718 total: 97.1ms remaining: 1.01s
88: learn: 0.4421569 total: 98.5ms remaining: 1.01s
89: learn: 0.4412868 total: 100ms remaining: 1.01s
90: learn: 0.4405842 total: 101ms remaining: 1.01s
91: learn: 0.4395914 total: 103ms remaining: 1.01s
92: learn: 0.4385550 total: 104ms remaining: 1.02s
93: learn: 0.4373069 total: 106ms remaining: 1.02s
94: learn: 0.4363303 total: 107ms remaining: 1.02s
95: learn: 0.4351226 total: 108ms remaining: 1.02s
96: learn: 0.4340271 total: 109ms remaining: 1.02s
97: learn: 0.4328179 total: 110ms remaining: 1.01s
98: learn: 0.4321442 total: 112ms remaining: 1.01s
99: learn: 0.4311071 total: 113ms remaining: 1.01s
100: learn: 0.4299818 total: 114ms remaining: 1.02s
101: learn: 0.4291727 total: 115ms remaining: 1.01s
102: learn: 0.4281983 total: 117ms remaining: 1.02s
103: learn: 0.4271798 total: 118ms remaining: 1.01s
104: learn: 0.4261734 total: 119ms remaining: 1.01s
105: learn: 0.4253771 total: 120ms remaining: 1.01s
106: learn: 0.4243168 total: 121ms remaining: 1.01s
107: learn: 0.4235933 total: 122ms remaining: 1.01s
108: learn: 0.4227440 total: 123ms remaining: 1.01s
109: learn: 0.4218945 total: 124ms remaining: 1s
110: learn: 0.4210675 total: 125ms remaining: 1s
111: learn: 0.4201735 total: 126ms remaining: 1s
112: learn: 0.4196209 total: 127ms remaining: 999ms
113: learn: 0.4190704 total: 129ms remaining: 1000ms
114: learn: 0.4183985 total: 130ms remaining: 998ms
115: learn: 0.4176900 total: 131ms remaining: 998ms
116: learn: 0.4168325 total: 132ms remaining: 997ms
117: learn: 0.4161617 total: 133ms remaining: 997ms
118: learn: 0.4154302 total: 135ms remaining: 997ms
119: learn: 0.4149264 total: 136ms remaining: 1s
120: learn: 0.4144560 total: 138ms remaining: 1s
121: learn: 0.4135552 total: 139ms remaining: 1s
122: learn: 0.4129040 total: 140ms remaining: 999ms
123: learn: 0.4121927 total: 141ms remaining: 997ms
124: learn: 0.4114572 total: 142ms remaining: 997ms
125: learn: 0.4110656 total: 144ms remaining: 997ms
126: learn: 0.4105097 total: 145ms remaining: 995ms
127: learn: 0.4098757 total: 146ms remaining: 993ms
128: learn: 0.4090820 total: 147ms remaining: 991ms
129: learn: 0.4082733 total: 148ms remaining: 992ms
130: learn: 0.4079533 total: 150ms remaining: 992ms
131: learn: 0.4074202 total: 151ms remaining: 990ms
132: learn: 0.4068692 total: 152ms remaining: 989ms
133: learn: 0.4062567 total: 153ms remaining: 988ms
134: learn: 0.4056914 total: 154ms remaining: 987ms
135: learn: 0.4054585 total: 155ms remaining: 985ms
136: learn: 0.4048329 total: 156ms remaining: 984ms
137: learn: 0.4042419 total: 158ms remaining: 985ms
138: learn: 0.4035450 total: 159ms remaining: 985ms
139: learn: 0.4029517 total: 160ms remaining: 984ms
140: learn: 0.4025628 total: 161ms remaining: 982ms
141: learn: 0.4020883 total: 163ms remaining: 984ms
142: learn: 0.4017275 total: 164ms remaining: 982ms
```

```
142: learn: 0.400150 total: 164ms remaining: 982ms
143: learn: 0.4010776 total: 165ms remaining: 981ms
144: learn: 0.4006418 total: 167ms remaining: 982ms
145: learn: 0.4001213 total: 168ms remaining: 982ms
146: learn: 0.3999533 total: 169ms remaining: 980ms
147: learn: 0.3994422 total: 171ms remaining: 982ms
148: learn: 0.3988710 total: 172ms remaining: 983ms
149: learn: 0.3986388 total: 173ms remaining: 981ms
150: learn: 0.3980231 total: 174ms remaining: 979ms
151: learn: 0.3972955 total: 176ms remaining: 980ms
152: learn: 0.3968310 total: 178ms remaining: 985ms
153: learn: 0.3962581 total: 179ms remaining: 985ms
154: learn: 0.3957318 total: 181ms remaining: 987ms
155: learn: 0.3952827 total: 182ms remaining: 987ms
156: learn: 0.3949733 total: 184ms remaining: 988ms
157: learn: 0.3944529 total: 186ms remaining: 992ms
158: learn: 0.3941287 total: 188ms remaining: 994ms
159: learn: 0.3939580 total: 188ms remaining: 990ms
160: learn: 0.3934483 total: 189ms remaining: 987ms
161: learn: 0.3929828 total: 191ms remaining: 987ms
162: learn: 0.3926407 total: 193ms remaining: 989ms
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166: learn: 0.3913878 total: 198ms remaining: 988ms
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169: learn: 0.3904942 total: 203ms remaining: 990ms
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172: learn: 0.3896782 total: 207ms remaining: 989ms
173: learn: 0.3892403 total: 208ms remaining: 989ms
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177: learn: 0.3878338 total: 214ms remaining: 990ms
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186: learn: 0.3854490 total: 228ms remaining: 992ms
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193: learn: 0.3833373 total: 239ms remaining: 994ms
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204: learn: 0.3810598 total: 257ms remaining: 995ms
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213: learn: 0.3790115 total: 268ms remaining: 985ms
214: ----- 0.3787402 +----- 270ms ----- 984ms
```

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214: learn: 0.3781495 total: 270ms remaining: 984ms
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219: learn: 0.3773462 total: 276ms remaining: 980ms
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223: learn: 0.3765082 total: 283ms remaining: 982ms
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228: learn: 0.3755732 total: 290ms remaining: 978ms
229: learn: 0.3753794 total: 292ms remaining: 977ms
230: learn: 0.3751203 total: 293ms remaining: 975ms
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241: learn: 0.3727459 total: 309ms remaining: 969ms
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258: learn: 0.3689726 total: 334ms remaining: 955ms
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260: learn: 0.3686723 total: 336ms remaining: 952ms
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262: learn: 0.3683342 total: 339ms remaining: 949ms
263: learn: 0.3680452 total: 341ms remaining: 951ms
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265: learn: 0.3676636 total: 344ms remaining: 948ms
266: learn: 0.3674166 total: 345ms remaining: 947ms
267: learn: 0.3673023 total: 346ms remaining: 946ms
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269: learn: 0.3667041 total: 349ms remaining: 944ms
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273: learn: 0.3657241 total: 355ms remaining: 941ms
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279: learn: 0.3646271 total: 362ms remaining: 932ms
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283: learn: 0.3636083 total: 369ms remaining: 930ms
284: learn: 0.3633708 total: 370ms remaining: 929ms
285: learn: 0.3632534 total: 371ms remaining: 927ms
286: ----- 0.3630000 +----- 372ms ----- 925ms
```

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293: learn: 0.3617131 total: 381ms remaining: 914ms
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301: learn: 0.3603595 total: 392ms remaining: 907ms
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303: learn: 0.3599518 total: 395ms remaining: 904ms
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305: learn: 0.3596240 total: 398ms remaining: 902ms
306: learn: 0.3594637 total: 400ms remaining: 903ms
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308: learn: 0.3591588 total: 405ms remaining: 905ms
309: learn: 0.3590566 total: 406ms remaining: 904ms
310: learn: 0.3590222 total: 408ms remaining: 904ms
311: learn: 0.3587863 total: 410ms remaining: 903ms
312: learn: 0.3586897 total: 411ms remaining: 902ms
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337: learn: 0.3553571 total: 446ms remaining: 874ms
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358: learn: 0.3526900 total: 475ms remaining: 849ms
```

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384: learn: 0.3492570 total: 513ms remaining: 820ms
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386: learn: 0.3489052 total: 517ms remaining: 819ms
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388: learn: 0.3487103 total: 520ms remaining: 817ms
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390: learn: 0.3485694 total: 524ms remaining: 816ms
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397: learn: 0.3476024 total: 537ms remaining: 813ms
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429: learn: 0.3439652 total: 587ms remaining: 779ms
430: ----- 0.3420401 +----- 500ms ----- 777ms
```

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499: learn: 0.3361471 total: 707ms remaining: 707ms
500: learn: 0.3361095 total: 709ms remaining: 706ms
501: learn: 0.3360140 total: 710ms remaining: 705ms
502: learn: 0.3359176 total: 712ms remaining: 704ms
```

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539: learn: 0.3318025 total: 773ms remaining: 658ms
540: learn: 0.3317229 total: 775ms remaining: 658ms
541: learn: 0.3314745 total: 777ms remaining: 656ms
542: learn: 0.3313801 total: 778ms remaining: 655ms
543: learn: 0.3312589 total: 780ms remaining: 654ms
544: learn: 0.3311519 total: 782ms remaining: 653ms
545: learn: 0.3311395 total: 784ms remaining: 652ms
546: learn: 0.3310288 total: 785ms remaining: 650ms
547: learn: 0.3308870 total: 788ms remaining: 650ms
548: learn: 0.3307569 total: 791ms remaining: 649ms
549: learn: 0.3306452 total: 792ms remaining: 648ms
550: learn: 0.3305736 total: 793ms remaining: 646ms
551: learn: 0.3304588 total: 795ms remaining: 645ms
552: learn: 0.3303797 total: 797ms remaining: 644ms
553: learn: 0.3303377 total: 798ms remaining: 643ms
554: learn: 0.3301269 total: 800ms remaining: 642ms
555: learn: 0.3299961 total: 802ms remaining: 640ms
556: learn: 0.3298212 total: 803ms remaining: 639ms
557: learn: 0.3296192 total: 805ms remaining: 637ms
558: learn: 0.3295609 total: 806ms remaining: 636ms
559: learn: 0.3295472 total: 807ms remaining: 634ms
560: learn: 0.3294590 total: 808ms remaining: 632ms
561: learn: 0.3293524 total: 809ms remaining: 631ms
562: learn: 0.3292103 total: 810ms remaining: 629ms
563: learn: 0.3290075 total: 812ms remaining: 627ms
564: learn: 0.3288628 total: 813ms remaining: 626ms
565: learn: 0.3287390 total: 815ms remaining: 625ms
566: learn: 0.3286193 total: 817ms remaining: 624ms
567: learn: 0.3286160 total: 818ms remaining: 622ms
568: learn: 0.3284673 total: 819ms remaining: 620ms
569: learn: 0.3281141 total: 820ms remaining: 619ms
570: learn: 0.3280648 total: 821ms remaining: 617ms
571: learn: 0.3278546 total: 822ms remaining: 615ms
572: learn: 0.3277985 total: 824ms remaining: 614ms
573: learn: 0.3276404 total: 825ms remaining: 612ms
```

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574: learn: 0.3275485 total: 827ms remaining: 611ms
575: learn: 0.3274763 total: 828ms remaining: 609ms
576: learn: 0.3273616 total: 829ms remaining: 608ms
577: learn: 0.3272668 total: 830ms remaining: 606ms
578: learn: 0.3271046 total: 831ms remaining: 605ms
579: learn: 0.3269637 total: 833ms remaining: 603ms
580: learn: 0.3267812 total: 834ms remaining: 602ms
581: learn: 0.3266367 total: 835ms remaining: 600ms
582: learn: 0.3265115 total: 836ms remaining: 598ms
583: learn: 0.3264192 total: 838ms remaining: 597ms
584: learn: 0.3263267 total: 840ms remaining: 596ms
585: learn: 0.3261660 total: 842ms remaining: 595ms
586: learn: 0.3261558 total: 843ms remaining: 593ms
587: learn: 0.3261044 total: 845ms remaining: 592ms
588: learn: 0.3259688 total: 847ms remaining: 591ms
589: learn: 0.3258836 total: 849ms remaining: 590ms
590: learn: 0.3256697 total: 850ms remaining: 589ms
591: learn: 0.3256078 total: 852ms remaining: 587ms
592: learn: 0.3254915 total: 854ms remaining: 586ms
593: learn: 0.3254733 total: 854ms remaining: 584ms
594: learn: 0.3253383 total: 856ms remaining: 582ms
595: learn: 0.3252357 total: 857ms remaining: 581ms
596: learn: 0.3251253 total: 859ms remaining: 580ms
597: learn: 0.3250704 total: 860ms remaining: 578ms
598: learn: 0.3249530 total: 861ms remaining: 577ms
599: learn: 0.3246809 total: 863ms remaining: 575ms
600: learn: 0.3245277 total: 864ms remaining: 574ms
601: learn: 0.3244503 total: 865ms remaining: 572ms
602: learn: 0.3244138 total: 867ms remaining: 571ms
603: learn: 0.3243890 total: 867ms remaining: 569ms
604: learn: 0.3243230 total: 868ms remaining: 567ms
605: learn: 0.3242680 total: 870ms remaining: 566ms
606: learn: 0.3242325 total: 872ms remaining: 565ms
607: learn: 0.3240987 total: 873ms remaining: 563ms
608: learn: 0.3239770 total: 874ms remaining: 561ms
609: learn: 0.3238904 total: 876ms remaining: 560ms
610: learn: 0.3237987 total: 877ms remaining: 559ms
611: learn: 0.3237484 total: 879ms remaining: 557ms
612: learn: 0.3236690 total: 881ms remaining: 556ms
613: learn: 0.3236036 total: 882ms remaining: 555ms
614: learn: 0.3235335 total: 885ms remaining: 554ms
615: learn: 0.3233300 total: 887ms remaining: 553ms
616: learn: 0.3231954 total: 888ms remaining: 551ms
617: learn: 0.3231867 total: 890ms remaining: 550ms
618: learn: 0.3231453 total: 892ms remaining: 549ms
619: learn: 0.3231004 total: 893ms remaining: 547ms
620: learn: 0.3229589 total: 895ms remaining: 546ms
621: learn: 0.3229279 total: 896ms remaining: 545ms
622: learn: 0.3227733 total: 898ms remaining: 544ms
623: learn: 0.3227154 total: 900ms remaining: 542ms
624: learn: 0.3224844 total: 902ms remaining: 541ms
625: learn: 0.3223689 total: 903ms remaining: 540ms
626: learn: 0.3222841 total: 905ms remaining: 538ms
627: learn: 0.3221657 total: 907ms remaining: 537ms
628: learn: 0.3220823 total: 909ms remaining: 536ms
629: learn: 0.3219546 total: 910ms remaining: 535ms
630: learn: 0.3218741 total: 913ms remaining: 534ms
631: learn: 0.3218257 total: 915ms remaining: 533ms
632: learn: 0.3216778 total: 916ms remaining: 531ms
633: learn: 0.3216006 total: 918ms remaining: 530ms
634: learn: 0.3215490 total: 920ms remaining: 529ms
635: learn: 0.3213498 total: 921ms remaining: 527ms
636: learn: 0.3212339 total: 923ms remaining: 526ms
637: learn: 0.3211506 total: 925ms remaining: 525ms
638: learn: 0.3210013 total: 926ms remaining: 523ms
639: learn: 0.3209503 total: 928ms remaining: 522ms
640: learn: 0.3207544 total: 929ms remaining: 520ms
641: learn: 0.3206582 total: 931ms remaining: 519ms
642: learn: 0.3205264 total: 932ms remaining: 518ms
643: learn: 0.3201921 total: 934ms remaining: 516ms
644: learn: 0.3201172 total: 935ms remaining: 515ms
645: learn: 0.3200025 total: 936ms remaining: 513ms
646: learn: 0.3199720 total: 937ms remaining: 511ms
```

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640: learn: 0.3199759 total: 957ms remaining: 511ms
647: learn: 0.3198469 total: 939ms remaining: 510ms
648: learn: 0.3197936 total: 941ms remaining: 509ms
649: learn: 0.3197550 total: 942ms remaining: 507ms
650: learn: 0.3196341 total: 944ms remaining: 506ms
651: learn: 0.3196004 total: 946ms remaining: 505ms
652: learn: 0.3195620 total: 948ms remaining: 504ms
653: learn: 0.3195361 total: 949ms remaining: 502ms
654: learn: 0.3195116 total: 950ms remaining: 500ms
655: learn: 0.3194492 total: 952ms remaining: 499ms
656: learn: 0.3192820 total: 954ms remaining: 498ms
657: learn: 0.3192411 total: 956ms remaining: 497ms
658: learn: 0.3190902 total: 958ms remaining: 496ms
659: learn: 0.3190023 total: 960ms remaining: 494ms
660: learn: 0.3189914 total: 961ms remaining: 493ms
661: learn: 0.3188818 total: 962ms remaining: 491ms
662: learn: 0.3188011 total: 964ms remaining: 490ms
663: learn: 0.3186475 total: 966ms remaining: 489ms
664: learn: 0.3185684 total: 968ms remaining: 488ms
665: learn: 0.3184890 total: 969ms remaining: 486ms
666: learn: 0.3184610 total: 972ms remaining: 485ms
667: learn: 0.3183612 total: 973ms remaining: 484ms
668: learn: 0.3183486 total: 975ms remaining: 482ms
669: learn: 0.3182681 total: 976ms remaining: 481ms
670: learn: 0.3181510 total: 978ms remaining: 479ms
671: learn: 0.3180821 total: 979ms remaining: 478ms
672: learn: 0.3180000 total: 980ms remaining: 476ms
673: learn: 0.3177792 total: 981ms remaining: 475ms
674: learn: 0.3176002 total: 983ms remaining: 473ms
675: learn: 0.3175325 total: 984ms remaining: 472ms
676: learn: 0.3174383 total: 986ms remaining: 470ms
677: learn: 0.3173987 total: 987ms remaining: 469ms
678: learn: 0.3173450 total: 988ms remaining: 467ms
679: learn: 0.3172849 total: 989ms remaining: 466ms
680: learn: 0.3170848 total: 991ms remaining: 464ms
681: learn: 0.3170065 total: 993ms remaining: 463ms
682: learn: 0.3168922 total: 994ms remaining: 461ms
683: learn: 0.3168257 total: 996ms remaining: 460ms
684: learn: 0.3167419 total: 999ms remaining: 459ms
685: learn: 0.3166791 total: 1s remaining: 458ms
686: learn: 0.3165675 total: 1s remaining: 457ms
687: learn: 0.3164710 total: 1s remaining: 455ms
688: learn: 0.3164501 total: 1s remaining: 454ms
689: learn: 0.3163574 total: 1.01s remaining: 452ms
690: learn: 0.3162536 total: 1.01s remaining: 451ms
691: learn: 0.3160346 total: 1.01s remaining: 449ms
692: learn: 0.3159484 total: 1.01s remaining: 448ms
693: learn: 0.3157807 total: 1.01s remaining: 447ms
694: learn: 0.3156438 total: 1.01s remaining: 445ms
695: learn: 0.3155550 total: 1.01s remaining: 444ms
696: learn: 0.3154007 total: 1.02s remaining: 442ms
697: learn: 0.3152563 total: 1.02s remaining: 441ms
698: learn: 0.3151804 total: 1.02s remaining: 439ms
699: learn: 0.3151258 total: 1.02s remaining: 438ms
700: learn: 0.3149624 total: 1.02s remaining: 436ms
701: learn: 0.3148433 total: 1.02s remaining: 435ms
702: learn: 0.3147735 total: 1.02s remaining: 433ms
703: learn: 0.3147186 total: 1.03s remaining: 432ms
704: learn: 0.3146070 total: 1.03s remaining: 430ms
705: learn: 0.3144037 total: 1.03s remaining: 429ms
706: learn: 0.3143775 total: 1.03s remaining: 427ms
707: learn: 0.3142888 total: 1.03s remaining: 426ms
708: learn: 0.3141470 total: 1.03s remaining: 425ms
709: learn: 0.3140104 total: 1.04s remaining: 423ms
710: learn: 0.3139591 total: 1.04s remaining: 422ms
711: learn: 0.3138426 total: 1.04s remaining: 421ms
712: learn: 0.3137670 total: 1.04s remaining: 419ms
713: learn: 0.3137241 total: 1.04s remaining: 418ms
714: learn: 0.3136557 total: 1.04s remaining: 416ms
715: learn: 0.3135698 total: 1.04s remaining: 415ms
716: learn: 0.3133942 total: 1.05s remaining: 414ms
717: learn: 0.3131844 total: 1.05s remaining: 412ms
718: learn: 0.3130011 total: 1.05s remaining: 411ms
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718: learn: 0.31250814 total: 1.05s remaining: 411ms
719: learn: 0.3130048 total: 1.05s remaining: 409ms
720: learn: 0.3129122 total: 1.05s remaining: 408ms
721: learn: 0.3128885 total: 1.05s remaining: 406ms
722: learn: 0.3127933 total: 1.06s remaining: 405ms
723: learn: 0.3127058 total: 1.06s remaining: 404ms
724: learn: 0.3126785 total: 1.06s remaining: 402ms
725: learn: 0.3125240 total: 1.06s remaining: 401ms
726: learn: 0.3124521 total: 1.06s remaining: 399ms
727: learn: 0.3122539 total: 1.06s remaining: 398ms
728: learn: 0.3121276 total: 1.07s remaining: 397ms
729: learn: 0.3121089 total: 1.07s remaining: 395ms
730: learn: 0.3119769 total: 1.07s remaining: 394ms
731: learn: 0.3118592 total: 1.07s remaining: 392ms
732: learn: 0.3116968 total: 1.07s remaining: 391ms
733: learn: 0.3115984 total: 1.07s remaining: 389ms
734: learn: 0.3115302 total: 1.07s remaining: 388ms
735: learn: 0.3114972 total: 1.08s remaining: 386ms
736: learn: 0.3114136 total: 1.08s remaining: 385ms
737: learn: 0.3113369 total: 1.08s remaining: 383ms
738: learn: 0.3113268 total: 1.08s remaining: 382ms
739: learn: 0.3112082 total: 1.08s remaining: 380ms
740: learn: 0.3111555 total: 1.08s remaining: 379ms
741: learn: 0.3110034 total: 1.08s remaining: 377ms
742: learn: 0.3109479 total: 1.09s remaining: 376ms
743: learn: 0.3108909 total: 1.09s remaining: 374ms
744: learn: 0.3108192 total: 1.09s remaining: 373ms
745: learn: 0.3106626 total: 1.09s remaining: 371ms
746: learn: 0.3105600 total: 1.09s remaining: 370ms
747: learn: 0.3103861 total: 1.09s remaining: 368ms
748: learn: 0.3103068 total: 1.09s remaining: 367ms
749: learn: 0.3102494 total: 1.1s remaining: 365ms
750: learn: 0.3101264 total: 1.1s remaining: 364ms
751: learn: 0.3100139 total: 1.1s remaining: 362ms
752: learn: 0.3098491 total: 1.1s remaining: 361ms
753: learn: 0.3094454 total: 1.1s remaining: 360ms
754: learn: 0.3092016 total: 1.1s remaining: 358ms
755: learn: 0.3091209 total: 1.1s remaining: 357ms
756: learn: 0.3089132 total: 1.11s remaining: 355ms
757: learn: 0.3087617 total: 1.11s remaining: 354ms
758: learn: 0.3087140 total: 1.11s remaining: 352ms
759: learn: 0.3085492 total: 1.11s remaining: 351ms
760: learn: 0.3083809 total: 1.11s remaining: 349ms
761: learn: 0.3083503 total: 1.11s remaining: 348ms
762: learn: 0.3082835 total: 1.11s remaining: 346ms
763: learn: 0.3081151 total: 1.12s remaining: 345ms
764: learn: 0.3080865 total: 1.12s remaining: 343ms
765: learn: 0.3080647 total: 1.12s remaining: 342ms
766: learn: 0.3078474 total: 1.12s remaining: 340ms
767: learn: 0.3076977 total: 1.12s remaining: 339ms
768: learn: 0.3075684 total: 1.12s remaining: 337ms
769: learn: 0.3075630 total: 1.12s remaining: 336ms
770: learn: 0.3073470 total: 1.13s remaining: 335ms
771: learn: 0.3073402 total: 1.13s remaining: 333ms
772: learn: 0.3072481 total: 1.13s remaining: 331ms
773: learn: 0.3071534 total: 1.13s remaining: 330ms
774: learn: 0.3071475 total: 1.13s remaining: 329ms
775: learn: 0.3070644 total: 1.13s remaining: 327ms
776: learn: 0.3069850 total: 1.14s remaining: 326ms
777: learn: 0.3068374 total: 1.14s remaining: 325ms
778: learn: 0.3066829 total: 1.14s remaining: 323ms
779: learn: 0.3065081 total: 1.14s remaining: 322ms
780: learn: 0.3063827 total: 1.14s remaining: 321ms
781: learn: 0.3063260 total: 1.14s remaining: 319ms
782: learn: 0.3062767 total: 1.15s remaining: 318ms
783: learn: 0.3061996 total: 1.15s remaining: 317ms
784: learn: 0.3060723 total: 1.15s remaining: 315ms
785: learn: 0.3060044 total: 1.15s remaining: 314ms
786: learn: 0.3057455 total: 1.15s remaining: 312ms
787: learn: 0.3055101 total: 1.16s remaining: 311ms
788: learn: 0.3053787 total: 1.16s remaining: 309ms
789: learn: 0.3052472 total: 1.16s remaining: 308ms
790: ----- 0.3051510 +----- 1.16s ----- 306ms
```

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790: learn: 0.304551 total: 1.10s remaining: 300ms
791: learn: 0.3051320 total: 1.16s remaining: 305ms
792: learn: 0.3050632 total: 1.16s remaining: 304ms
793: learn: 0.3049359 total: 1.16s remaining: 302ms
794: learn: 0.3048529 total: 1.17s remaining: 301ms
795: learn: 0.3047631 total: 1.17s remaining: 299ms
796: learn: 0.3047010 total: 1.17s remaining: 298ms
797: learn: 0.3044009 total: 1.17s remaining: 297ms
798: learn: 0.3043068 total: 1.17s remaining: 295ms
799: learn: 0.3042498 total: 1.17s remaining: 294ms
800: learn: 0.3041104 total: 1.18s remaining: 292ms
801: learn: 0.3040273 total: 1.18s remaining: 291ms
802: learn: 0.3039427 total: 1.18s remaining: 289ms
803: learn: 0.3038305 total: 1.18s remaining: 288ms
804: learn: 0.3038048 total: 1.18s remaining: 286ms
805: learn: 0.3037336 total: 1.18s remaining: 285ms
806: learn: 0.3036775 total: 1.18s remaining: 283ms
807: learn: 0.3036166 total: 1.19s remaining: 282ms
808: learn: 0.3034913 total: 1.19s remaining: 281ms
809: learn: 0.3031900 total: 1.19s remaining: 279ms
810: learn: 0.3030939 total: 1.19s remaining: 278ms
811: learn: 0.3030364 total: 1.19s remaining: 276ms
812: learn: 0.3029444 total: 1.2s remaining: 275ms
813: learn: 0.3028750 total: 1.2s remaining: 274ms
814: learn: 0.3027213 total: 1.2s remaining: 272ms
815: learn: 0.3026820 total: 1.2s remaining: 271ms
816: learn: 0.3024962 total: 1.21s remaining: 270ms
817: learn: 0.3023142 total: 1.21s remaining: 268ms
818: learn: 0.3021848 total: 1.21s remaining: 267ms
819: learn: 0.3020710 total: 1.21s remaining: 265ms
820: learn: 0.3019738 total: 1.21s remaining: 264ms
821: learn: 0.3017836 total: 1.21s remaining: 263ms
822: learn: 0.3015686 total: 1.22s remaining: 261ms
823: learn: 0.3014847 total: 1.22s remaining: 260ms
824: learn: 0.3013225 total: 1.22s remaining: 258ms
825: learn: 0.3012674 total: 1.22s remaining: 257ms
826: learn: 0.3011422 total: 1.22s remaining: 256ms
827: learn: 0.3010695 total: 1.23s remaining: 255ms
828: learn: 0.3010081 total: 1.23s remaining: 253ms
829: learn: 0.3009607 total: 1.23s remaining: 252ms
830: learn: 0.3007445 total: 1.23s remaining: 251ms
831: learn: 0.3006440 total: 1.23s remaining: 249ms
832: learn: 0.3005476 total: 1.24s remaining: 248ms
833: learn: 0.3004367 total: 1.24s remaining: 247ms
834: learn: 0.3003403 total: 1.24s remaining: 245ms
835: learn: 0.3002625 total: 1.24s remaining: 244ms
836: learn: 0.3001252 total: 1.24s remaining: 242ms
837: learn: 0.2999111 total: 1.24s remaining: 241ms
838: learn: 0.2998958 total: 1.25s remaining: 239ms
839: learn: 0.2997601 total: 1.25s remaining: 238ms
840: learn: 0.2996241 total: 1.25s remaining: 236ms
841: learn: 0.2995345 total: 1.25s remaining: 235ms
842: learn: 0.2994839 total: 1.25s remaining: 234ms
843: learn: 0.2993149 total: 1.26s remaining: 232ms
844: learn: 0.2992542 total: 1.26s remaining: 231ms
845: learn: 0.2991330 total: 1.26s remaining: 229ms
846: learn: 0.2990931 total: 1.26s remaining: 228ms
847: learn: 0.2990610 total: 1.26s remaining: 226ms
848: learn: 0.2989856 total: 1.26s remaining: 225ms
849: learn: 0.2989287 total: 1.27s remaining: 223ms
850: learn: 0.2987087 total: 1.27s remaining: 222ms
851: learn: 0.2985447 total: 1.27s remaining: 220ms
852: learn: 0.2983882 total: 1.27s remaining: 219ms
853: learn: 0.2983385 total: 1.27s remaining: 218ms
854: learn: 0.2982411 total: 1.27s remaining: 216ms
855: learn: 0.2980020 total: 1.28s remaining: 215ms
856: learn: 0.2979214 total: 1.28s remaining: 213ms
857: learn: 0.2978027 total: 1.28s remaining: 212ms
858: learn: 0.2977069 total: 1.28s remaining: 211ms
859: learn: 0.2976770 total: 1.29s remaining: 209ms
860: learn: 0.2976089 total: 1.29s remaining: 208ms
861: learn: 0.2975461 total: 1.29s remaining: 206ms
862: learn: 0.2974507 total: 1.29s remaining: 205ms
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802: learn: 0.2974501 total: 1.29s remaining: 205ms
863: learn: 0.2973930 total: 1.29s remaining: 204ms
864: learn: 0.2972231 total: 1.29s remaining: 202ms
865: learn: 0.2971707 total: 1.3s remaining: 201ms
866: learn: 0.2971670 total: 1.3s remaining: 199ms
867: learn: 0.2970287 total: 1.3s remaining: 198ms
868: learn: 0.2969103 total: 1.3s remaining: 196ms
869: learn: 0.2967943 total: 1.3s remaining: 195ms
870: learn: 0.2967257 total: 1.31s remaining: 194ms
871: learn: 0.2966606 total: 1.31s remaining: 192ms
872: learn: 0.2966424 total: 1.31s remaining: 191ms
873: learn: 0.2965721 total: 1.31s remaining: 189ms
874: learn: 0.2965349 total: 1.31s remaining: 188ms
875: learn: 0.2963904 total: 1.31s remaining: 186ms
876: learn: 0.2962785 total: 1.32s remaining: 185ms
877: learn: 0.2962198 total: 1.32s remaining: 183ms
878: learn: 0.2961770 total: 1.32s remaining: 182ms
879: learn: 0.2960612 total: 1.32s remaining: 180ms
880: learn: 0.2959407 total: 1.32s remaining: 179ms
881: learn: 0.2957673 total: 1.32s remaining: 177ms
882: learn: 0.2955270 total: 1.33s remaining: 176ms
883: learn: 0.2954404 total: 1.33s remaining: 174ms
884: learn: 0.2953545 total: 1.33s remaining: 173ms
885: learn: 0.2952998 total: 1.33s remaining: 171ms
886: learn: 0.2952470 total: 1.33s remaining: 170ms
887: learn: 0.2951666 total: 1.33s remaining: 168ms
888: learn: 0.2950653 total: 1.33s remaining: 167ms
889: learn: 0.2950413 total: 1.34s remaining: 165ms
890: learn: 0.2948183 total: 1.34s remaining: 164ms
891: learn: 0.2947531 total: 1.34s remaining: 162ms
892: learn: 0.2946394 total: 1.34s remaining: 161ms
893: learn: 0.2945581 total: 1.34s remaining: 159ms
894: learn: 0.2944688 total: 1.34s remaining: 158ms
895: learn: 0.2944012 total: 1.35s remaining: 156ms
896: learn: 0.2943247 total: 1.35s remaining: 155ms
897: learn: 0.2942538 total: 1.35s remaining: 153ms
898: learn: 0.2941451 total: 1.35s remaining: 152ms
899: learn: 0.2941096 total: 1.35s remaining: 150ms
900: learn: 0.2940118 total: 1.35s remaining: 149ms
901: learn: 0.2938677 total: 1.35s remaining: 147ms
902: learn: 0.2937800 total: 1.35s remaining: 146ms
903: learn: 0.2936721 total: 1.36s remaining: 144ms
904: learn: 0.2935497 total: 1.36s remaining: 142ms
905: learn: 0.2934461 total: 1.36s remaining: 141ms
906: learn: 0.2933819 total: 1.36s remaining: 139ms
907: learn: 0.2931829 total: 1.36s remaining: 138ms
908: learn: 0.2931316 total: 1.36s remaining: 136ms
909: learn: 0.2930743 total: 1.36s remaining: 135ms
910: learn: 0.2929671 total: 1.36s remaining: 133ms
911: learn: 0.2928893 total: 1.37s remaining: 132ms
912: learn: 0.2928050 total: 1.37s remaining: 130ms
913: learn: 0.2927437 total: 1.37s remaining: 129ms
914: learn: 0.2927033 total: 1.37s remaining: 127ms
915: learn: 0.2926336 total: 1.37s remaining: 126ms
916: learn: 0.2924710 total: 1.37s remaining: 124ms
917: learn: 0.2924142 total: 1.37s remaining: 123ms
918: learn: 0.2921603 total: 1.38s remaining: 121ms
919: learn: 0.2921157 total: 1.38s remaining: 120ms
920: learn: 0.2920531 total: 1.38s remaining: 118ms
921: learn: 0.2918746 total: 1.38s remaining: 117ms
922: learn: 0.2918261 total: 1.38s remaining: 115ms
923: learn: 0.2917249 total: 1.38s remaining: 114ms
924: learn: 0.2914817 total: 1.38s remaining: 112ms
925: learn: 0.2914000 total: 1.38s remaining: 111ms
926: learn: 0.2913319 total: 1.39s remaining: 109ms
927: learn: 0.2912717 total: 1.39s remaining: 108ms
928: learn: 0.2910752 total: 1.39s remaining: 106ms
929: learn: 0.2908186 total: 1.39s remaining: 105ms
930: learn: 0.2907106 total: 1.4s remaining: 103ms
931: learn: 0.2904325 total: 1.4s remaining: 102ms
932: learn: 0.2903959 total: 1.4s remaining: 100ms
933: learn: 0.2902724 total: 1.4s remaining: 99ms
934: learn: 0.2901900 total: 1.4s remaining: 97ms
```

```
954: learn: 0.28901800 total: 1.4s remaining: 91.5ms
955: learn: 0.2900939 total: 1.4s remaining: 96ms
936: learn: 0.2900030 total: 1.41s remaining: 94.5ms
937: learn: 0.2899455 total: 1.41s remaining: 93.1ms
938: learn: 0.2898986 total: 1.41s remaining: 91.6ms
939: learn: 0.2898511 total: 1.41s remaining: 90.1ms
940: learn: 0.2897890 total: 1.41s remaining: 88.6ms
941: learn: 0.2896281 total: 1.41s remaining: 87.1ms
942: learn: 0.2895789 total: 1.42s remaining: 85.6ms
943: learn: 0.2893129 total: 1.42s remaining: 84.1ms
944: learn: 0.2891874 total: 1.42s remaining: 82.6ms
945: learn: 0.2889070 total: 1.42s remaining: 81.1ms
946: learn: 0.2888180 total: 1.42s remaining: 79.5ms
947: learn: 0.2887106 total: 1.42s remaining: 78ms
948: learn: 0.2884716 total: 1.42s remaining: 76.5ms
949: learn: 0.2884325 total: 1.43s remaining: 75ms
950: learn: 0.2883896 total: 1.43s remaining: 73.5ms
951: learn: 0.2882227 total: 1.43s remaining: 72ms
952: learn: 0.2881735 total: 1.43s remaining: 70.5ms
953: learn: 0.2881194 total: 1.43s remaining: 69ms
954: learn: 0.2880659 total: 1.43s remaining: 67.4ms
955: learn: 0.2880303 total: 1.43s remaining: 65.9ms
956: learn: 0.2879696 total: 1.43s remaining: 64.4ms
957: learn: 0.2876975 total: 1.44s remaining: 62.9ms
958: learn: 0.2875213 total: 1.44s remaining: 61.4ms
959: learn: 0.2873550 total: 1.44s remaining: 59.9ms
960: learn: 0.2871416 total: 1.44s remaining: 58.4ms
961: learn: 0.2870792 total: 1.44s remaining: 56.9ms
962: learn: 0.2870351 total: 1.44s remaining: 55.4ms
963: learn: 0.2869746 total: 1.44s remaining: 53.9ms
964: learn: 0.2867884 total: 1.44s remaining: 52.4ms
965: learn: 0.2866123 total: 1.45s remaining: 50.9ms
966: learn: 0.2863499 total: 1.45s remaining: 49.4ms
967: learn: 0.2862997 total: 1.45s remaining: 47.9ms
968: learn: 0.2862256 total: 1.45s remaining: 46.4ms
969: learn: 0.2859537 total: 1.45s remaining: 44.9ms
970: learn: 0.2858567 total: 1.45s remaining: 43.4ms
971: learn: 0.2856831 total: 1.46s remaining: 41.9ms
972: learn: 0.2856123 total: 1.46s remaining: 40.4ms
973: learn: 0.2854796 total: 1.46s remaining: 38.9ms
974: learn: 0.2853081 total: 1.46s remaining: 37.4ms
975: learn: 0.2851937 total: 1.46s remaining: 35.9ms
976: learn: 0.2851204 total: 1.46s remaining: 34.4ms
977: learn: 0.2850270 total: 1.46s remaining: 32.9ms
978: learn: 0.2848072 total: 1.47s remaining: 31.4ms
979: learn: 0.2846544 total: 1.47s remaining: 29.9ms
980: learn: 0.2844368 total: 1.47s remaining: 28.4ms
981: learn: 0.2843196 total: 1.47s remaining: 26.9ms
982: learn: 0.2842659 total: 1.47s remaining: 25.5ms
983: learn: 0.2840749 total: 1.48s remaining: 24ms
984: learn: 0.2840184 total: 1.48s remaining: 22.5ms
985: learn: 0.2839150 total: 1.48s remaining: 21ms
986: learn: 0.2838353 total: 1.48s remaining: 19.5ms
987: learn: 0.2837411 total: 1.48s remaining: 18ms
988: learn: 0.2837086 total: 1.48s remaining: 16.5ms
989: learn: 0.2836469 total: 1.49s remaining: 15ms
990: learn: 0.2835199 total: 1.49s remaining: 13.5ms
991: learn: 0.2833446 total: 1.49s remaining: 12ms
992: learn: 0.2832809 total: 1.49s remaining: 10.5ms
993: learn: 0.2832248 total: 1.49s remaining: 9.01ms
994: learn: 0.2831563 total: 1.49s remaining: 7.5ms
995: learn: 0.2830627 total: 1.49s remaining: 6ms
996: learn: 0.2830200 total: 1.5s remaining: 4.5ms
997: learn: 0.2829680 total: 1.5s remaining: 3ms
998: learn: 0.2828122 total: 1.5s remaining: 1.5ms
999: learn: 0.2827593 total: 1.5s remaining: 0us
```

Learning rate set to 0.009376

```
0: learn: 0.6860795 total: 1.68ms remaining: 1.67s
1: learn: 0.6825128 total: 2.54ms remaining: 1.27s
2: learn: 0.6770645 total: 3.75ms remaining: 1.25s
3: learn: 0.6721612 total: 4.83ms remaining: 1.2s
4: learn: 0.6666992 total: 6.32ms remaining: 1.26s
5: learn: 0.6622362 total: 7.85ms remaining: 1.24s
6: learn: 0.6577732 total: 9.38ms remaining: 1.23s
7: learn: 0.6533102 total: 10.91ms remaining: 1.22s
8: learn: 0.6488472 total: 12.44ms remaining: 1.21s
9: learn: 0.6443842 total: 13.97ms remaining: 1.2s
10: learn: 0.6399212 total: 15.5ms remaining: 1.2s
11: learn: 0.6354582 total: 17.03ms remaining: 1.2s
12: learn: 0.6309952 total: 18.56ms remaining: 1.2s
13: learn: 0.6265322 total: 20.09ms remaining: 1.2s
14: learn: 0.6220692 total: 21.62ms remaining: 1.2s
15: learn: 0.6176062 total: 23.15ms remaining: 1.2s
16: learn: 0.6131432 total: 24.68ms remaining: 1.2s
17: learn: 0.6086802 total: 26.21ms remaining: 1.2s
18: learn: 0.6042172 total: 27.74ms remaining: 1.2s
19: learn: 0.6097542 total: 29.27ms remaining: 1.2s
20: learn: 0.6052912 total: 30.8ms remaining: 1.2s
21: learn: 0.6008282 total: 32.33ms remaining: 1.2s
22: learn: 0.5963652 total: 33.86ms remaining: 1.2s
23: learn: 0.5919022 total: 35.39ms remaining: 1.2s
24: learn: 0.5874392 total: 36.92ms remaining: 1.2s
25: learn: 0.5829762 total: 38.45ms remaining: 1.2s
26: learn: 0.5785132 total: 40.98ms remaining: 1.2s
27: learn: 0.5740502 total: 42.51ms remaining: 1.2s
28: learn: 0.5695872 total: 44.04ms remaining: 1.2s
29: learn: 0.5651242 total: 45.57ms remaining: 1.2s
30: learn: 0.5606612 total: 47.1ms remaining: 1.2s
31: learn: 0.5561982 total: 48.63ms remaining: 1.2s
32: learn: 0.5517352 total: 50.16ms remaining: 1.2s
33: learn: 0.5472722 total: 51.69ms remaining: 1.2s
34: learn: 0.5428092 total: 53.22ms remaining: 1.2s
35: learn: 0.5383462 total: 54.75ms remaining: 1.2s
36: learn: 0.5338832 total: 56.28ms remaining: 1.2s
37: learn: 0.5294202 total: 57.81ms remaining: 1.2s
38: learn: 0.5249572 total: 59.34ms remaining: 1.2s
39: learn: 0.5204942 total: 60.87ms remaining: 1.2s
40: learn: 0.5160312 total: 62.4ms remaining: 1.2s
41: learn: 0.5115682 total: 63.93ms remaining: 1.2s
42: learn: 0.5071052 total: 65.46ms remaining: 1.2s
43: learn: 0.5026422 total: 66.99ms remaining: 1.2s
44: learn: 0.4981792 total: 68.52ms remaining: 1.2s
45: learn: 0.4937162 total: 70.05ms remaining: 1.2s
46: learn: 0.4892532 total: 71.58ms remaining: 1.2s
47: learn: 0.4847902 total: 73.11ms remaining: 1.2s
48: learn: 0.4803272 total: 74.64ms remaining: 1.2s
49: learn: 0.4758642 total: 76.17ms remaining: 1.2s
50: learn: 0.4714012 total: 77.7ms remaining: 1.2s
51: learn: 0.4669382 total: 79.23ms remaining: 1.2s
52: learn: 0.4624752 total: 80.76ms remaining: 1.2s
53: learn: 0.4570122 total: 82.29ms remaining: 1.2s
54: learn: 0.4525492 total: 83.82ms remaining: 1.2s
55: learn: 0.4480862 total: 85.35ms remaining: 1.2s
56: learn: 0.4436232 total: 86.88ms remaining: 1.2s
57: learn: 0.4391602 total: 88.41ms remaining: 1.2s
58: learn: 0.4346972 total: 89.94ms remaining: 1.2s
59: learn: 0.4302342 total: 91.47ms remaining: 1.2s
60: learn: 0.4257712 total: 92.0ms remaining: 1.2s
61: learn: 0.4213082 total: 93.53ms remaining: 1.2s
62: learn: 0.4168452 total: 95.06ms remaining: 1.2s
63: learn: 0.4123822 total: 96.59ms remaining: 1.2s
64: learn: 0.4079192 total: 98.12ms remaining: 1.2s
65: learn: 0.4034562 total: 99.65ms remaining: 1.2s
66: learn: 0.4089932 total: 101.18ms remaining: 1.2s
67: learn: 0.4045302 total: 102.71ms remaining: 1.2s
68: learn: 0.4000672 total: 104.24ms remaining: 1.2s
69: learn: 0.3956042 total: 105.77ms remaining: 1.2s
70: learn: 0.3911412 total: 107.3ms remaining: 1.2s
71: learn: 0.3866782 total: 108.83ms remaining: 1.2s
72: learn: 0.3822152 total: 110.36ms remaining: 1.2s
73: learn: 0.3777522 total: 111.89ms remaining: 1.2s
74: learn: 0.3732892 total: 113.42ms remaining: 1.2s
75: learn: 0.3688262 total: 114.95ms remaining: 1.2s
76: learn: 0.3643632 total: 116.48ms remaining: 1.2s
77: learn: 0.3599002 total: 117.01ms remaining: 1.2s
78: learn: 0.3554372 total: 118.54ms remaining: 1.2s
79: learn: 0.3509742 total: 119.07ms remaining: 1.2s
80: learn: 0.3465112 total: 120.6ms remaining: 1.2s
81: learn: 0.3420482 total: 122.13ms remaining: 1.2s
82: learn: 0.3375852 total: 123.66ms remaining: 1.2s
83: learn: 0.3331222 total: 125.19ms remaining: 1.2s
84: learn: 0.3286592 total: 126.72ms remaining: 1.2s
85: learn: 0.3241962 total: 128.25ms remaining: 1.2s
86: learn: 0.3197332 total: 129.78ms remaining: 1.2s
87: learn: 0.3152702 total: 131.31ms remaining: 1.2s
88: learn: 0.3108072 total: 132.84ms remaining: 1.2s
89: learn: 0.3063442 total: 134.37ms remaining: 1.2s
90: learn: 0.3018812 total: 135.9ms remaining: 1.2s
91: learn: 0.2974182 total: 137.43ms remaining: 1.2s
92: learn: 0.2929552 total: 138.96ms remaining: 1.2s
93: learn: 0.2884922 total: 140.49ms remaining: 1.2s
94: learn: 0.2840292 total: 142.02ms remaining: 1.2s
95: learn: 0.2795662 total: 143.55ms remaining: 1.2s
96: learn: 0.2751032 total: 145.08ms remaining: 1.2s
97: learn: 0.2706402 total: 146.61ms remaining: 1.2s
98: learn: 0.2661772 total: 148.14ms remaining: 1.2s
99: learn: 0.2617142 total: 149.67ms remaining: 1.2s
100: learn: 0.2572512 total: 151.2ms remaining: 1.2s
101: learn: 0.2527882 total: 152.73ms remaining: 1.2s
102: learn: 0.2483252 total: 154.26ms remaining: 1.2s
103: learn: 0.2438622 total: 155.79ms remaining: 1.2s
104: learn: 0.2394092 total: 157.32ms remaining: 1.2s
105: learn: 0.2349462 total: 158.85ms remaining: 1.2s
106: learn: 0.2304832 total: 160.38ms remaining: 1.2s
107: learn: 0.2260202 total: 161.91ms remaining: 1.2s
108: learn: 0.2215572 total: 163.44ms remaining: 1.2s
109: learn: 0.2170942 total: 164.97ms remaining: 1.2s
110: learn: 0.2126312 total: 166.5ms remaining: 1.2s
111: learn: 0.2081682 total: 168.03ms remaining: 1.2s
112: learn: 0.2037052 total: 169.56ms remaining: 1.2s
113: learn: 0.1992422 total: 171.09ms remaining: 1.2s
114: learn: 0.1947792 total: 172.62ms remaining: 1.2s
115: learn: 0.1903162 total: 174.15ms remaining: 1.2s
116: learn: 0.1858532 total: 175.68ms remaining: 1.2s
117: learn: 0.1813902 total: 177.21ms remaining: 1.2s
118: learn: 0.1769272 total: 178.74ms remaining: 1.2s
119: learn: 0.1724642 total: 180.27ms remaining: 1.2s
120: learn: 0.1679012 total: 181.8ms remaining: 1.2s
121: learn: 0.1634382 total: 183.33ms remaining: 1.2s
122: learn: 0.1589752 total: 184.86ms remaining: 1.2s
123: learn: 0.1545122 total: 186.39ms remaining: 1.2s
124: learn: 0.1500492 total: 187.92ms remaining: 1.2s
125: learn: 0.1455862 total: 189.45ms remaining: 1.2s
126: learn: 0.1411232 total: 190.98ms remaining: 1.2s
127: learn: 0.1366602 total: 192.51ms remaining: 1.2s
128: learn: 0.1321972 total: 194.04ms remaining: 1.2s
129: learn: 0.1277342 total: 195.57ms remaining: 1.2s
130: learn: 0.1232712 total: 197.1ms remaining: 1.2s
131: learn: 0.1188082 total: 198.63ms remaining: 1.2s
132: learn: 0.1143452 total: 200.16ms remaining: 1.2s
133: learn: 0.1098822 total: 201.69ms remaining: 1.2s
134: learn: 0.1054192 total: 203.22ms remaining: 1.2s
135: learn: 0.1009562 total: 204.75ms remaining: 1.2s
136: learn: 0.0964932 total: 206.28ms remaining: 1.2s
137: learn: 0.0920302 total: 207.81ms remaining: 1.2s
138: learn: 0.0875672 total: 209.34ms remaining: 1.2s
139: learn: 0.0831042 total: 210.87ms remaining: 1.2s
140: learn: 0.0786412 total: 212.4ms remaining: 1.2s
141: learn: 0.0741782 total: 213.93ms remaining: 1.2s
142: learn: 0.0697152 total: 215.46ms remaining: 1.2s
143: learn: 0.0652522 total: 216.99ms remaining: 1.2s
144: learn: 0.0607892 total: 218.52ms remaining: 1.2s
145: learn: 0.0563262 total: 220.05ms remaining: 1.2s
146: learn: 0.0518632 total: 221.58ms remaining: 1.2s
147: learn: 0.0474002 total: 223.11ms remaining: 1.2s
148: learn: 0.0429372 total: 224.64ms remaining: 1.2s
149: learn: 0.0384742 total: 226.17ms remaining: 1.2s
150: learn: 0.0340112 total: 227.7ms remaining: 1.2s
151: learn: 0.0295482 total: 229.23ms remaining: 1.2s
152: learn: 0.0250852 total: 230.76ms remaining: 1.2s
153: learn: 0.0206222 total: 232.29ms remaining: 1.2s
154: learn: 0.0161592 total: 233.82ms remaining: 1.2s
155: learn: 0.0116962 total: 235.35ms remaining: 1.2s
156: learn: 0.0072332 total: 236.88ms remaining: 1.2s
157: learn: 0.0027702 total: 238.41ms remaining: 1.2s
158: learn: -0.0017932 total: 239.94ms remaining: 1.2s
159: learn: -0.0062562 total: 241.47ms remaining: 1.2s
160: learn: -0.0117232 total: 242.0ms remaining: 1.2s
161: learn: -0.0171902 total: 243.53ms remaining: 1.2s
162: learn: -0.0226572 total: 245.06ms remaining: 1.2s
163: learn: -0.0281242 total: 246.59ms remaining: 1.2s
164: learn: -0.0335912 total: 248.12ms remaining: 1.2s
165: learn: -0.0390582 total: 249.65ms remaining: 1.2s
166: learn: -0.0445252 total: 251.18ms remaining: 1.2s
167: learn: -0.0499922 total: 252.71ms remaining: 1.2s
168: learn: -0.0554592 total: 254.24ms remaining: 1.2s
169: learn: -0.0609262 total: 255.77ms remaining: 1.2s
170: learn: -0.0663932 total: 257.3ms remaining: 1.2s
171: learn: -0.0718602 total: 258.83ms remaining: 1.2s
172: learn: -0.0773272 total: 260.36ms remaining: 1.2s
173: learn: -0.0827942 total: 261.89ms remaining: 1.2s
174: learn: -0.0882612 total: 263.42ms remaining: 1.2s
175: learn: -0.0937282 total: 264.95ms remaining: 1.2s
176: learn: -0.0991952 total: 266.48ms remaining: 1.2s
177: learn: -0.1046622 total: 267.01ms remaining: 1.2s
178: learn: -0.1091292 total: 268.54ms remaining: 1.2s
179: learn: -0.1145962 total: 269.07ms remaining: 1.2s
180: learn: -0.1190632 total: 270.6ms remaining: 1.2s
181: learn: -0.1245302 total: 272.13ms remaining: 1.2s
182: learn: -0.1299972 total: 273.66ms remaining: 1.2s
183: learn: -0.1354642 total: 275.19ms remaining: 1.2s
184: learn: -0.1409312 total: 276.72ms remaining: 1.2s
185: learn: -0.1463982 total: 278.25ms remaining: 1.2s
186: learn: -0.1518652 total: 279.78ms remaining: 1.2s
187: learn: -0.1573322 total: 281.31ms remaining: 1.2s
188: learn: -0.1627992 total: 282.84ms remaining: 1.2s
189: learn: -0.1682662 total: 284.37ms remaining: 1.2s
190: learn: -0.1737332 total: 285.9ms remaining: 1.2s
191: learn: -0.1791002 total: 287.43ms remaining: 1.2s
192: learn: -0.1845672 total: 288.96ms remaining: 1.2s
193: learn: -0.1899342 total: 290.49ms remaining: 1.2s
194: learn: -0.1953012 total: 291.02ms remaining: 1.2s
195: learn: -0.2007682 total: 292.55ms remaining: 1.2s
196: learn: -0.2062352 total: 294.08ms remaining: 1.2s
197: learn: -0.2117022 total: 295.61ms remaining: 1.2s
198: learn: -0.2171692 total: 297.14ms remaining: 1.2s
199: learn: -0.2226362 total: 298.67ms remaining: 1.2s
200: learn: -0.2281032 total: 300.2ms remaining: 1.2s
201: learn: -0.2335702 total: 301.73ms remaining: 1.2s
202: learn: -0.2390372 total: 303.26ms remaining: 1.2s
203: learn: -0.2445042 total: 304.79ms remaining: 1.2s
204: learn: -0.2499712 total: 306.32ms remaining: 1.2s
205: learn: -0.2554382 total: 307.85ms remaining: 1.2s
206: learn: -0.2609052 total: 309.38ms remaining: 1.2s
207: learn: -0.2663722 total: 310.91ms remaining: 1.2s
208: learn: -0.2718392 total: 312.44ms remaining: 1.2s
209: learn: -0.2773062 total: 313.97ms remaining: 1.2s
210: learn: -0.2827732 total: 315.5ms remaining: 1.2s
211: learn: -0.2882402 total: 317.03ms remaining: 1.2s
212: learn: -0.2937072 total: 318.56ms remaining: 1.2s
213: learn: -0.2991742 total: 320.09ms remaining: 1.2s
214: learn: -0.3046412 total: 321.62ms remaining: 1.2s
215: learn: -0.3091082 total: 323.15ms remaining: 1.2s
216: learn: -0.3145752 total: 324.68ms remaining: 1.2s
217: learn: -0.3190422 total: 326.21ms remaining: 1.2s
218: learn: -0.3245092 total: 327.74ms remaining: 1.2s
219: learn: -0.3299762 total: 329.27ms remaining: 1.2s
220: learn: -0.3354432 total: 330.8ms remaining: 1.2s
221: learn: -0.3409102 total: 332.33ms remaining: 1.2s
222: learn: -0.3463772 total: 333.86ms remaining: 1.2s
223: learn: -0.3518442 total: 335.39ms remaining: 1.2s
224: learn: -0.3573112 total: 336.92ms remaining: 1.2s
225: learn: -0.3627782 total: 338.45ms remaining: 1.2s
226: learn: -0.3682452 total: 339.98ms remaining: 1.2s
227: learn: -0.3737122 total: 341.51ms remaining: 1.2s
228: learn: -0.3791792 total: 343.04ms remaining: 1.2s
229: learn: -0.3846462 total: 344.57ms remaining: 1.2s
230: learn: -0.3891132 total: 346.1ms remaining: 1.2s
231: learn: -0.3945802 total: 347.63ms remaining: 1.2s
232: learn: -0.3999472 total: 349.16ms remaining: 1.2s
233: learn: -0.4054142 total: 350.69ms remaining: 1.2s
234: learn: -0.4108812 total: 352.22ms remaining: 1.2s
235: learn: -0.4163482 total: 353.75ms remaining: 1.2s
236: learn: -0.4218152 total: 355.28ms remaining: 1.2s
237: learn: -0.4272822 total: 356.81ms remaining: 1.2s
238: learn: -0.4327492 total: 358.34ms remaining: 1.2s
239: learn: -0.4382162 total: 359.87ms remaining: 1.2s
240: learn: -0.4436832 total: 361.4ms remaining: 1.2s
241: learn: -0.4491502 total: 362.93ms remaining: 1.2s
242: learn: -0.4546172 total: 364.46ms remaining: 1.2s
243: learn: -0.4590842 total: 365.99ms remaining: 1.2s
244: learn: -0.4645512 total: 367.52ms remaining: 1.2s
245: learn: -0.4699182 total: 369.05ms remaining: 1.2s
246: learn: -0.4753852 total: 370.58ms remaining: 1.2s
247: learn: -0.4807522 total: 372.11ms remaining: 1.2s
248: learn: -0.4861192 total: 373.64ms remaining: 1.2s
249: learn: -0.4914862 total: 375.17ms remaining: 1.2s
250: learn: -0.4968532 total: 376.7ms remaining: 1.2s
251: learn: -0.5022202 total: 378.23ms remaining: 1.2s
252: learn: -0.5075872 total: 379.76ms remaining: 1.2s
253: learn: -0.5129542 total: 381.29ms remaining: 1.2s
254: learn: -0.5183212 total: 382.82ms remaining: 1.2s
255: learn: -0.5236882 total: 384.35ms remaining: 1.2s
256: learn: -0.5290552 total: 385.88ms remaining: 1.2s
257: learn: -0.5344222 total: 387.41ms remaining: 1.2s
258: learn: -0.5397892 total: 388.94ms remaining: 1.2s
259: learn: -0.5451562 total: 390.47ms remaining: 1.2s
260: learn: -0.5505232 total: 391.0ms remaining: 1.2s
261: learn: -0.5558902 total: 392.53ms remaining: 1.2s
262: learn: -0.5612572 total: 394.06ms remaining: 1.2s
263: learn: -0.5666242 total: 395.59ms remaining: 1.2s
264: learn: -0.5719912 total: 397.12ms remaining: 1.2s
265: learn: -0.5773582 total: 398.65ms remaining: 1.2s
266: learn: -0.5827252 total: 400.18ms remaining: 1.2s
267: learn: -0.5880922 total: 401.71ms remaining: 1.2s
268: learn: -0.5934592 total: 403.24ms remaining: 
```

5: learn: 0.6600991 total: 8.0ms remaining: 1.34s
6: learn: 0.6547051 total: 9.87ms remaining: 1.4s
7: learn: 0.6480684 total: 11.5ms remaining: 1.43s
8: learn: 0.6415801 total: 12.6ms remaining: 1.39s
9: learn: 0.6357469 total: 14ms remaining: 1.39s
10: learn: 0.6304277 total: 15.2ms remaining: 1.37s
11: learn: 0.6246603 total: 16.3ms remaining: 1.34s
12: learn: 0.6190137 total: 17.5ms remaining: 1.33s
13: learn: 0.6131266 total: 19.5ms remaining: 1.37s
14: learn: 0.6071579 total: 21.5ms remaining: 1.41s
15: learn: 0.6017210 total: 22.9ms remaining: 1.41s
16: learn: 0.5968322 total: 24.6ms remaining: 1.42s
17: learn: 0.5928577 total: 26.1ms remaining: 1.42s
18: learn: 0.5888408 total: 27.5ms remaining: 1.42s
19: learn: 0.5846212 total: 28.9ms remaining: 1.42s
20: learn: 0.5797818 total: 30.3ms remaining: 1.41s
21: learn: 0.5757752 total: 31.8ms remaining: 1.42s
22: learn: 0.5715015 total: 33.3ms remaining: 1.41s
23: learn: 0.5672218 total: 34.6ms remaining: 1.41s
24: learn: 0.5631958 total: 36.1ms remaining: 1.41s
25: learn: 0.5589061 total: 37.3ms remaining: 1.4s
26: learn: 0.5553205 total: 38.7ms remaining: 1.39s
27: learn: 0.5511449 total: 40ms remaining: 1.39s
28: learn: 0.5471993 total: 41.4ms remaining: 1.39s
29: learn: 0.5454261 total: 42ms remaining: 1.36s
30: learn: 0.5419878 total: 43.3ms remaining: 1.35s
31: learn: 0.5377908 total: 44.6ms remaining: 1.35s
32: learn: 0.5339132 total: 45.9ms remaining: 1.34s
33: learn: 0.5301250 total: 47.5ms remaining: 1.35s
34: learn: 0.5268702 total: 48.9ms remaining: 1.35s
35: learn: 0.5237585 total: 50.2ms remaining: 1.34s
36: learn: 0.5200862 total: 51.6ms remaining: 1.34s
37: learn: 0.5170508 total: 53.1ms remaining: 1.34s
38: learn: 0.5140067 total: 54.6ms remaining: 1.34s
39: learn: 0.5107234 total: 55.9ms remaining: 1.34s
40: learn: 0.5081240 total: 57.1ms remaining: 1.33s
41: learn: 0.5048821 total: 58.3ms remaining: 1.33s
42: learn: 0.5035198 total: 59.4ms remaining: 1.32s
43: learn: 0.5008263 total: 60.8ms remaining: 1.32s
44: learn: 0.4985534 total: 62.1ms remaining: 1.32s
45: learn: 0.4971821 total: 63.1ms remaining: 1.31s
46: learn: 0.4945969 total: 64.6ms remaining: 1.31s
47: learn: 0.4925519 total: 65.7ms remaining: 1.3s
48: learn: 0.4898074 total: 66.6ms remaining: 1.29s
49: learn: 0.4872675 total: 67.9ms remaining: 1.29s
50: learn: 0.4855341 total: 68.8ms remaining: 1.28s
51: learn: 0.4828471 total: 70.6ms remaining: 1.29s
52: learn: 0.4801738 total: 72.5ms remaining: 1.29s
53: learn: 0.4780882 total: 74.2ms remaining: 1.3s
54: learn: 0.4760944 total: 75.8ms remaining: 1.3s
55: learn: 0.4737077 total: 77.4ms remaining: 1.3s
56: learn: 0.4710356 total: 78.8ms remaining: 1.3s
57: learn: 0.4690123 total: 80.2ms remaining: 1.3s
58: learn: 0.4665977 total: 81.5ms remaining: 1.3s
59: learn: 0.4644183 total: 82.9ms remaining: 1.3s
60: learn: 0.4624129 total: 84ms remaining: 1.29s
61: learn: 0.4604422 total: 85.3ms remaining: 1.29s
62: learn: 0.4583300 total: 86.7ms remaining: 1.29s
63: learn: 0.4569400 total: 88.5ms remaining: 1.29s
64: learn: 0.4553955 total: 90.2ms remaining: 1.3s
65: learn: 0.4536452 total: 92.4ms remaining: 1.31s
66: learn: 0.4519720 total: 94.4ms remaining: 1.31s
67: learn: 0.4504111 total: 97.2ms remaining: 1.33s
68: learn: 0.4486042 total: 99.5ms remaining: 1.34s
69: learn: 0.4469380 total: 101ms remaining: 1.35s
70: learn: 0.4453658 total: 103ms remaining: 1.35s
71: learn: 0.4435994 total: 106ms remaining: 1.37s
72: learn: 0.4421991 total: 108ms remaining: 1.37s
73: learn: 0.4404996 total: 110ms remaining: 1.38s
74: learn: 0.4389894 total: 112ms remaining: 1.39s
75: learn: 0.4377743 total: 114ms remaining: 1.38s
76: learn: 0.4367359 total: 115ms remaining: 1.37s
77: learn: 0.4352600 total: 116ms remaining: 1.37s

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1: learn: 0.4552000 total: 110ms remaining: 1.57s
2: learn: 0.4336750 total: 118ms remaining: 1.37s
3: learn: 0.4328281 total: 119ms remaining: 1.37s
4: learn: 0.4317347 total: 121ms remaining: 1.38s
5: learn: 0.4302316 total: 123ms remaining: 1.38s
6: learn: 0.4289272 total: 125ms remaining: 1.38s
7: learn: 0.4276868 total: 127ms remaining: 1.38s
8: learn: 0.4263496 total: 128ms remaining: 1.38s
9: learn: 0.4254075 total: 130ms remaining: 1.38s
10: learn: 0.4242211 total: 131ms remaining: 1.38s
11: learn: 0.4231619 total: 132ms remaining: 1.37s
12: learn: 0.4217015 total: 134ms remaining: 1.37s
13: learn: 0.4205129 total: 135ms remaining: 1.37s
14: learn: 0.4192985 total: 137ms remaining: 1.37s
15: learn: 0.4184090 total: 138ms remaining: 1.36s
16: learn: 0.4173598 total: 140ms remaining: 1.36s
17: learn: 0.4161062 total: 141ms remaining: 1.36s
18: learn: 0.4149122 total: 143ms remaining: 1.36s
19: learn: 0.4141663 total: 145ms remaining: 1.36s
20: learn: 0.4133079 total: 147ms remaining: 1.36s
21: learn: 0.4125216 total: 148ms remaining: 1.36s
22: learn: 0.4114459 total: 149ms remaining: 1.36s
23: learn: 0.4103905 total: 151ms remaining: 1.36s
24: learn: 0.4093429 total: 152ms remaining: 1.35s
25: learn: 0.4085037 total: 154ms remaining: 1.35s
26: learn: 0.4079726 total: 155ms remaining: 1.35s
27: learn: 0.4072811 total: 157ms remaining: 1.35s
28: learn: 0.4060912 total: 158ms remaining: 1.35s
29: learn: 0.4051168 total: 160ms remaining: 1.35s
30: learn: 0.4039841 total: 161ms remaining: 1.35s
31: learn: 0.4029928 total: 163ms remaining: 1.34s
32: learn: 0.4020332 total: 165ms remaining: 1.35s
33: learn: 0.4012082 total: 167ms remaining: 1.35s
34: learn: 0.4004428 total: 168ms remaining: 1.35s
35: learn: 0.3994614 total: 169ms remaining: 1.34s
36: learn: 0.3987680 total: 171ms remaining: 1.34s
37: learn: 0.3979437 total: 173ms remaining: 1.34s
38: learn: 0.3969217 total: 174ms remaining: 1.34s
39: learn: 0.3959563 total: 175ms remaining: 1.33s
40: learn: 0.3952758 total: 177ms remaining: 1.33s
41: learn: 0.3941757 total: 178ms remaining: 1.33s
42: learn: 0.3937334 total: 179ms remaining: 1.32s
43: learn: 0.3931679 total: 180ms remaining: 1.32s
44: learn: 0.3925945 total: 181ms remaining: 1.31s
45: learn: 0.3919132 total: 182ms remaining: 1.31s
46: learn: 0.3912671 total: 183ms remaining: 1.31s
47: learn: 0.3911133 total: 184ms remaining: 1.3s
48: learn: 0.3903095 total: 185ms remaining: 1.3s
49: learn: 0.3894995 total: 187ms remaining: 1.3s
50: learn: 0.3891074 total: 189ms remaining: 1.3s
51: learn: 0.3883532 total: 190ms remaining: 1.29s
52: learn: 0.3875368 total: 191ms remaining: 1.29s
53: learn: 0.3870160 total: 193ms remaining: 1.29s
54: learn: 0.3867589 total: 194ms remaining: 1.29s
55: learn: 0.3859915 total: 195ms remaining: 1.28s
56: learn: 0.3854316 total: 197ms remaining: 1.28s
57: learn: 0.3848916 total: 199ms remaining: 1.29s
58: learn: 0.3841445 total: 202ms remaining: 1.29s
59: learn: 0.3836946 total: 204ms remaining: 1.3s
60: learn: 0.3831142 total: 206ms remaining: 1.29s
61: learn: 0.3827035 total: 207ms remaining: 1.29s
62: learn: 0.3820843 total: 209ms remaining: 1.29s
63: learn: 0.3815097 total: 210ms remaining: 1.29s
64: learn: 0.3810996 total: 212ms remaining: 1.29s
65: learn: 0.3805568 total: 213ms remaining: 1.29s
66: learn: 0.3800337 total: 214ms remaining: 1.28s
67: learn: 0.3795239 total: 216ms remaining: 1.28s
68: learn: 0.3791326 total: 217ms remaining: 1.28s
69: learn: 0.3788559 total: 218ms remaining: 1.28s
70: learn: 0.3784126 total: 220ms remaining: 1.27s
71: learn: 0.3778790 total: 221ms remaining: 1.27s
72: learn: 0.3775409 total: 222ms remaining: 1.27s
73: learn: 0.3774101 total: 223ms remaining: 1.26s
```

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149: learn: 0.371410 total: 225ms remaining: 1.26s
150: learn: 0.3771212 total: 225ms remaining: 1.26s
151: learn: 0.3767939 total: 226ms remaining: 1.26s
152: learn: 0.3759748 total: 227ms remaining: 1.26s
153: learn: 0.3754909 total: 229ms remaining: 1.26s
154: learn: 0.3750440 total: 230ms remaining: 1.26s
155: learn: 0.3746019 total: 232ms remaining: 1.26s
156: learn: 0.3741414 total: 234ms remaining: 1.25s
157: learn: 0.3734783 total: 236ms remaining: 1.26s
158: learn: 0.3728579 total: 237ms remaining: 1.25s
159: learn: 0.3724079 total: 239ms remaining: 1.25s
160: learn: 0.3718744 total: 240ms remaining: 1.25s
161: learn: 0.3711577 total: 242ms remaining: 1.25s
162: learn: 0.3709923 total: 243ms remaining: 1.25s
163: learn: 0.3705816 total: 244ms remaining: 1.24s
164: learn: 0.3701702 total: 245ms remaining: 1.24s
165: learn: 0.3698175 total: 246ms remaining: 1.24s
166: learn: 0.3692231 total: 247ms remaining: 1.23s
167: learn: 0.3688572 total: 248ms remaining: 1.23s
168: learn: 0.3685875 total: 249ms remaining: 1.23s
169: learn: 0.3682180 total: 251ms remaining: 1.22s
170: learn: 0.3681224 total: 252ms remaining: 1.22s
171: learn: 0.3678333 total: 253ms remaining: 1.22s
172: learn: 0.3673289 total: 255ms remaining: 1.22s
173: learn: 0.3669250 total: 257ms remaining: 1.22s
174: learn: 0.3665201 total: 259ms remaining: 1.22s
175: learn: 0.3660899 total: 261ms remaining: 1.22s
176: learn: 0.3656727 total: 263ms remaining: 1.22s
177: learn: 0.3651208 total: 264ms remaining: 1.22s
178: learn: 0.3646163 total: 265ms remaining: 1.21s
179: learn: 0.3643949 total: 266ms remaining: 1.21s
180: learn: 0.3639610 total: 268ms remaining: 1.21s
181: learn: 0.3635480 total: 269ms remaining: 1.21s
182: learn: 0.3634082 total: 270ms remaining: 1.21s
183: learn: 0.3632767 total: 271ms remaining: 1.2s
184: learn: 0.3631591 total: 272ms remaining: 1.2s
185: learn: 0.3627466 total: 274ms remaining: 1.2s
186: learn: 0.3621819 total: 276ms remaining: 1.2s
187: learn: 0.3620050 total: 277ms remaining: 1.2s
188: learn: 0.3616153 total: 279ms remaining: 1.2s
189: learn: 0.3610531 total: 281ms remaining: 1.2s
190: learn: 0.3608325 total: 283ms remaining: 1.2s
191: learn: 0.3607236 total: 285ms remaining: 1.2s
192: learn: 0.3602966 total: 287ms remaining: 1.2s
193: learn: 0.3600366 total: 289ms remaining: 1.2s
194: learn: 0.3595984 total: 290ms remaining: 1.2s
195: learn: 0.3592531 total: 292ms remaining: 1.2s
196: learn: 0.3588284 total: 293ms remaining: 1.2s
197: learn: 0.3585409 total: 295ms remaining: 1.2s
198: learn: 0.3583414 total: 297ms remaining: 1.2s
199: learn: 0.3580835 total: 299ms remaining: 1.2s
200: learn: 0.3577740 total: 301ms remaining: 1.2s
201: learn: 0.3575618 total: 302ms remaining: 1.19s
202: learn: 0.3571783 total: 304ms remaining: 1.19s
203: learn: 0.3568009 total: 306ms remaining: 1.19s
204: learn: 0.3565674 total: 308ms remaining: 1.19s
205: learn: 0.3565389 total: 309ms remaining: 1.19s
206: learn: 0.3562109 total: 311ms remaining: 1.19s
207: learn: 0.3558501 total: 312ms remaining: 1.19s
208: learn: 0.3556630 total: 314ms remaining: 1.19s
209: learn: 0.3554697 total: 315ms remaining: 1.19s
210: learn: 0.3551979 total: 317ms remaining: 1.19s
211: learn: 0.3549891 total: 318ms remaining: 1.18s
212: learn: 0.3547422 total: 320ms remaining: 1.18s
213: learn: 0.3543705 total: 321ms remaining: 1.18s
214: learn: 0.3541510 total: 322ms remaining: 1.18s
215: learn: 0.3538068 total: 324ms remaining: 1.18s
216: learn: 0.3534025 total: 326ms remaining: 1.18s
217: learn: 0.3531867 total: 327ms remaining: 1.17s
218: learn: 0.3528053 total: 329ms remaining: 1.17s
219: learn: 0.3525677 total: 331ms remaining: 1.17s
220: learn: 0.3522902 total: 333ms remaining: 1.17s
221: ----- 0.3521010 +----- 224ms ----- 1.17s
```

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221: learn: 0.3521919 total: 354ms remaining: 1.17s
222: learn: 0.3517633 total: 335ms remaining: 1.17s
223: learn: 0.3514143 total: 337ms remaining: 1.17s
224: learn: 0.3512151 total: 338ms remaining: 1.16s
225: learn: 0.3509984 total: 340ms remaining: 1.17s
226: learn: 0.3507305 total: 344ms remaining: 1.17s
227: learn: 0.3506005 total: 346ms remaining: 1.17s
228: learn: 0.3502290 total: 348ms remaining: 1.17s
229: learn: 0.3499182 total: 349ms remaining: 1.17s
230: learn: 0.3496389 total: 351ms remaining: 1.17s
231: learn: 0.3493338 total: 353ms remaining: 1.17s
232: learn: 0.3489537 total: 354ms remaining: 1.17s
233: learn: 0.3487059 total: 356ms remaining: 1.16s
234: learn: 0.3486689 total: 357ms remaining: 1.16s
235: learn: 0.3485388 total: 358ms remaining: 1.16s
236: learn: 0.3482920 total: 360ms remaining: 1.16s
237: learn: 0.3480341 total: 362ms remaining: 1.16s
238: learn: 0.3477949 total: 364ms remaining: 1.16s
239: learn: 0.3474135 total: 366ms remaining: 1.16s
240: learn: 0.3470729 total: 368ms remaining: 1.16s
241: learn: 0.3466137 total: 370ms remaining: 1.16s
242: learn: 0.3462297 total: 372ms remaining: 1.16s
243: learn: 0.3459497 total: 374ms remaining: 1.16s
244: learn: 0.3457726 total: 375ms remaining: 1.16s
245: learn: 0.3455828 total: 377ms remaining: 1.15s
246: learn: 0.3454053 total: 378ms remaining: 1.15s
247: learn: 0.3451189 total: 380ms remaining: 1.15s
248: learn: 0.3448943 total: 381ms remaining: 1.15s
249: learn: 0.3445665 total: 383ms remaining: 1.15s
250: learn: 0.3443153 total: 384ms remaining: 1.15s
251: learn: 0.3440418 total: 387ms remaining: 1.15s
252: learn: 0.3437904 total: 389ms remaining: 1.15s
253: learn: 0.3436024 total: 392ms remaining: 1.15s
254: learn: 0.3433207 total: 393ms remaining: 1.15s
255: learn: 0.3429386 total: 394ms remaining: 1.15s
256: learn: 0.3427770 total: 396ms remaining: 1.14s
257: learn: 0.3425724 total: 397ms remaining: 1.14s
258: learn: 0.3423702 total: 398ms remaining: 1.14s
259: learn: 0.3421250 total: 400ms remaining: 1.14s
260: learn: 0.3419244 total: 402ms remaining: 1.14s
261: learn: 0.3417507 total: 403ms remaining: 1.14s
262: learn: 0.3415219 total: 405ms remaining: 1.13s
263: learn: 0.3413714 total: 407ms remaining: 1.13s
264: learn: 0.3411682 total: 409ms remaining: 1.13s
265: learn: 0.3410563 total: 411ms remaining: 1.13s
266: learn: 0.3409828 total: 412ms remaining: 1.13s
267: learn: 0.3405696 total: 414ms remaining: 1.13s
268: learn: 0.3401382 total: 417ms remaining: 1.13s
269: learn: 0.3399628 total: 420ms remaining: 1.14s
270: learn: 0.3397334 total: 422ms remaining: 1.13s
271: learn: 0.3394752 total: 424ms remaining: 1.13s
272: learn: 0.3392392 total: 425ms remaining: 1.13s
273: learn: 0.3390536 total: 427ms remaining: 1.13s
274: learn: 0.3388470 total: 429ms remaining: 1.13s
275: learn: 0.3386272 total: 430ms remaining: 1.13s
276: learn: 0.3385172 total: 433ms remaining: 1.13s
277: learn: 0.3381586 total: 434ms remaining: 1.13s
278: learn: 0.3379066 total: 436ms remaining: 1.13s
279: learn: 0.3377065 total: 437ms remaining: 1.12s
280: learn: 0.3375480 total: 439ms remaining: 1.12s
281: learn: 0.3373350 total: 441ms remaining: 1.12s
282: learn: 0.3370744 total: 444ms remaining: 1.13s
283: learn: 0.3369189 total: 448ms remaining: 1.13s
284: learn: 0.3368346 total: 451ms remaining: 1.13s
285: learn: 0.3367065 total: 454ms remaining: 1.13s
286: learn: 0.3365592 total: 456ms remaining: 1.13s
287: learn: 0.3363947 total: 457ms remaining: 1.13s
288: learn: 0.3361830 total: 459ms remaining: 1.13s
289: learn: 0.3360275 total: 461ms remaining: 1.13s
290: learn: 0.3359621 total: 463ms remaining: 1.13s
291: learn: 0.3358974 total: 464ms remaining: 1.13s
292: learn: 0.3357082 total: 467ms remaining: 1.13s
293: learn: 0.3355210 total: 469ms remaining: 1.13s
```

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295: learn: 0.3349059 total: 469ms remaining: 1.11s
294: learn: 0.3352764 total: 470ms remaining: 1.12s
295: learn: 0.3349303 total: 471ms remaining: 1.12s
296: learn: 0.3348056 total: 472ms remaining: 1.12s
297: learn: 0.3345170 total: 474ms remaining: 1.11s
298: learn: 0.3343585 total: 475ms remaining: 1.11s
299: learn: 0.3342243 total: 477ms remaining: 1.11s
300: learn: 0.3338855 total: 478ms remaining: 1.11s
301: learn: 0.3337727 total: 480ms remaining: 1.11s
302: learn: 0.3336379 total: 482ms remaining: 1.11s
303: learn: 0.3332043 total: 483ms remaining: 1.1s
304: learn: 0.3330151 total: 485ms remaining: 1.1s
305: learn: 0.3328492 total: 486ms remaining: 1.1s
306: learn: 0.3325361 total: 488ms remaining: 1.1s
307: learn: 0.3323218 total: 489ms remaining: 1.1s
308: learn: 0.3321855 total: 490ms remaining: 1.1s
309: learn: 0.3320189 total: 491ms remaining: 1.09s
310: learn: 0.3319374 total: 493ms remaining: 1.09s
311: learn: 0.3317767 total: 495ms remaining: 1.09s
312: learn: 0.3315920 total: 496ms remaining: 1.09s
313: learn: 0.3313368 total: 498ms remaining: 1.09s
314: learn: 0.3310998 total: 499ms remaining: 1.08s
315: learn: 0.3310378 total: 501ms remaining: 1.08s
316: learn: 0.3309613 total: 502ms remaining: 1.08s
317: learn: 0.3307162 total: 504ms remaining: 1.08s
318: learn: 0.3305981 total: 505ms remaining: 1.08s
319: learn: 0.3304723 total: 507ms remaining: 1.08s
320: learn: 0.3302711 total: 508ms remaining: 1.07s
321: learn: 0.3301418 total: 510ms remaining: 1.07s
322: learn: 0.3300093 total: 512ms remaining: 1.07s
323: learn: 0.3299193 total: 515ms remaining: 1.07s
324: learn: 0.3297988 total: 517ms remaining: 1.07s
325: learn: 0.3294677 total: 519ms remaining: 1.07s
326: learn: 0.3293716 total: 520ms remaining: 1.07s
327: learn: 0.3292538 total: 521ms remaining: 1.07s
328: learn: 0.3290900 total: 523ms remaining: 1.06s
329: learn: 0.3289814 total: 525ms remaining: 1.06s
330: learn: 0.3287645 total: 527ms remaining: 1.06s
331: learn: 0.3286772 total: 529ms remaining: 1.06s
332: learn: 0.3284109 total: 530ms remaining: 1.06s
333: learn: 0.3283709 total: 532ms remaining: 1.06s
334: learn: 0.3282256 total: 533ms remaining: 1.06s
335: learn: 0.3280285 total: 535ms remaining: 1.06s
336: learn: 0.3279591 total: 536ms remaining: 1.05s
337: learn: 0.3279313 total: 537ms remaining: 1.05s
338: learn: 0.3277092 total: 537ms remaining: 1.05s
339: learn: 0.3274771 total: 539ms remaining: 1.04s
340: learn: 0.3273365 total: 540ms remaining: 1.04s
341: learn: 0.3271476 total: 542ms remaining: 1.04s
342: learn: 0.3269520 total: 544ms remaining: 1.04s
343: learn: 0.3267345 total: 546ms remaining: 1.04s
344: learn: 0.3265258 total: 548ms remaining: 1.04s
345: learn: 0.3263348 total: 550ms remaining: 1.04s
346: learn: 0.3261881 total: 551ms remaining: 1.04s
347: learn: 0.3260070 total: 552ms remaining: 1.03s
348: learn: 0.3258918 total: 553ms remaining: 1.03s
349: learn: 0.3257926 total: 555ms remaining: 1.03s
350: learn: 0.3256558 total: 556ms remaining: 1.03s
351: learn: 0.3254256 total: 558ms remaining: 1.03s
352: learn: 0.3254127 total: 559ms remaining: 1.02s
353: learn: 0.3253152 total: 560ms remaining: 1.02s
354: learn: 0.3250040 total: 562ms remaining: 1.02s
355: learn: 0.3249056 total: 563ms remaining: 1.02s
356: learn: 0.3246228 total: 564ms remaining: 1.02s
357: learn: 0.3244835 total: 565ms remaining: 1.01s
358: learn: 0.3244077 total: 567ms remaining: 1.01s
359: learn: 0.3242563 total: 569ms remaining: 1.01s
360: learn: 0.3241394 total: 570ms remaining: 1.01s
361: learn: 0.3240343 total: 572ms remaining: 1.01s
362: learn: 0.3239166 total: 573ms remaining: 1.01s
363: learn: 0.3237093 total: 575ms remaining: 1s
364: learn: 0.3235226 total: 577ms remaining: 1s
365: learn: 0.3233152 total: 579ms remaining: 1s
```

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505: learn: 0.3254110 total: 579ms remaining: 1s
366: learn: 0.3234676 total: 580ms remaining: 1s
367: learn: 0.3232071 total: 582ms remaining: 1s
368: learn: 0.3228963 total: 585ms remaining: 1000ms
369: learn: 0.3226902 total: 586ms remaining: 998ms
370: learn: 0.3225016 total: 588ms remaining: 997ms
371: learn: 0.3224338 total: 590ms remaining: 995ms
372: learn: 0.3223811 total: 591ms remaining: 993ms
373: learn: 0.3222334 total: 592ms remaining: 990ms
374: learn: 0.3219935 total: 593ms remaining: 989ms
375: learn: 0.3218291 total: 595ms remaining: 987ms
376: learn: 0.3216145 total: 596ms remaining: 985ms
377: learn: 0.3215138 total: 598ms remaining: 984ms
378: learn: 0.3214462 total: 599ms remaining: 982ms
379: learn: 0.3212490 total: 600ms remaining: 980ms
380: learn: 0.3212449 total: 602ms remaining: 978ms
381: learn: 0.3210187 total: 604ms remaining: 977ms
382: learn: 0.3208966 total: 605ms remaining: 975ms
383: learn: 0.3207715 total: 607ms remaining: 973ms
384: learn: 0.3205322 total: 608ms remaining: 971ms
385: learn: 0.3204330 total: 610ms remaining: 970ms
386: learn: 0.3203238 total: 611ms remaining: 968ms
387: learn: 0.3203030 total: 612ms remaining: 966ms
388: learn: 0.3200766 total: 614ms remaining: 964ms
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390: learn: 0.3199793 total: 615ms remaining: 958ms
391: learn: 0.3199311 total: 617ms remaining: 957ms
392: learn: 0.3197509 total: 618ms remaining: 955ms
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394: learn: 0.3195088 total: 621ms remaining: 951ms
395: learn: 0.3195047 total: 622ms remaining: 949ms
396: learn: 0.3193711 total: 624ms remaining: 948ms
397: learn: 0.3191619 total: 625ms remaining: 946ms
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403: learn: 0.3183237 total: 631ms remaining: 932ms
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407: learn: 0.3176407 total: 636ms remaining: 923ms
408: learn: 0.3175709 total: 637ms remaining: 921ms
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414: learn: 0.3167169 total: 643ms remaining: 907ms
415: learn: 0.3166541 total: 645ms remaining: 905ms
416: learn: 0.3166121 total: 646ms remaining: 903ms
417: learn: 0.3165474 total: 648ms remaining: 902ms
418: learn: 0.3164012 total: 650ms remaining: 901ms
419: learn: 0.3161681 total: 651ms remaining: 899ms
420: learn: 0.3160943 total: 652ms remaining: 897ms
421: learn: 0.3160728 total: 653ms remaining: 895ms
422: learn: 0.3160125 total: 654ms remaining: 893ms
423: learn: 0.3158284 total: 655ms remaining: 890ms
424: learn: 0.3156575 total: 657ms remaining: 888ms
425: learn: 0.3156252 total: 658ms remaining: 886ms
426: learn: 0.3155592 total: 659ms remaining: 884ms
427: learn: 0.3152827 total: 660ms remaining: 882ms
428: learn: 0.3152359 total: 661ms remaining: 880ms
429: learn: 0.3151190 total: 663ms remaining: 878ms
430: learn: 0.3150253 total: 664ms remaining: 876ms
431: learn: 0.3149161 total: 665ms remaining: 875ms
432: learn: 0.3148449 total: 667ms remaining: 873ms
433: learn: 0.3146479 total: 668ms remaining: 872ms
434: learn: 0.3145037 total: 670ms remaining: 870ms
435: learn: 0.3143622 total: 672ms remaining: 869ms
436: learn: 0.3142203 total: 674ms remaining: 868ms
437: learn: 0.3141200 total: 675ms remaining: 866ms
```

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442: learn: 0.3134707 total: 683ms remaining: 859ms
443: learn: 0.3132716 total: 685ms remaining: 858ms
444: learn: 0.3132111 total: 687ms remaining: 856ms
445: learn: 0.3130464 total: 689ms remaining: 855ms
446: learn: 0.3128904 total: 690ms remaining: 854ms
447: learn: 0.3128163 total: 692ms remaining: 852ms
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450: learn: 0.3124601 total: 696ms remaining: 847ms
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453: learn: 0.3120338 total: 701ms remaining: 844ms
454: learn: 0.3120012 total: 703ms remaining: 842ms
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456: learn: 0.3116735 total: 706ms remaining: 839ms
457: learn: 0.3116523 total: 707ms remaining: 837ms
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459: learn: 0.3113916 total: 711ms remaining: 834ms
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472: learn: 0.3100200 total: 734ms remaining: 818ms
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476: learn: 0.3096081 total: 741ms remaining: 812ms
477: learn: 0.3095636 total: 743ms remaining: 811ms
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479: learn: 0.3092339 total: 746ms remaining: 808ms
480: learn: 0.3091163 total: 748ms remaining: 807ms
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482: learn: 0.3089959 total: 750ms remaining: 803ms
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507: learn: 0.3065081 total: 778ms remaining: 754ms
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509: learn: 0.3060220 total: 781ms remaining: 750ms
```

```
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532: learn: 0.3033925 total: 812ms remaining: 711ms
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579: learn: 0.2987025 total: 875ms remaining: 633ms
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581: learn: 0.2985560 total: 877ms remaining: 630ms
```

```
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583: learn: 0.2982640 total: 880ms remaining: 627ms
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627: learn: 0.2926474 total: 936ms remaining: 555ms
628: learn: 0.2926325 total: 937ms remaining: 553ms
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631: learn: 0.2923439 total: 941ms remaining: 548ms
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633: learn: 0.2919881 total: 943ms remaining: 545ms
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637: learn: 0.2915315 total: 948ms remaining: 538ms
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647: learn: 0.2904234 total: 961ms remaining: 522ms
648: learn: 0.2904122 total: 962ms remaining: 520ms
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651: learn: 0.2900668 total: 966ms remaining: 516ms
652: learn: 0.2900417 total: 968ms remaining: 514ms
653: learn: 0.2900155 total: 969ms remaining: 512ms
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653: learn: 0.2899455 total: 99ms remaining: 515ms
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658: learn: 0.2892451 total: 981ms remaining: 508ms
659: learn: 0.2891390 total: 983ms remaining: 506ms
660: learn: 0.2891291 total: 984ms remaining: 505ms
661: learn: 0.2890451 total: 986ms remaining: 503ms
662: learn: 0.2889454 total: 987ms remaining: 502ms
663: learn: 0.2888732 total: 989ms remaining: 500ms
664: learn: 0.2887817 total: 991ms remaining: 499ms
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667: learn: 0.2883235 total: 995ms remaining: 494ms
668: learn: 0.2882290 total: 997ms remaining: 493ms
669: learn: 0.2881546 total: 998ms remaining: 491ms
670: learn: 0.2880772 total: 999ms remaining: 490ms
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673: learn: 0.2876439 total: 1s remaining: 485ms
674: learn: 0.2875604 total: 1s remaining: 484ms
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683: learn: 0.2866049 total: 1.02s remaining: 471ms
684: learn: 0.2865132 total: 1.02s remaining: 470ms
685: learn: 0.2861838 total: 1.02s remaining: 468ms
686: learn: 0.2861133 total: 1.02s remaining: 466ms
687: learn: 0.2860367 total: 1.02s remaining: 465ms
688: learn: 0.2859409 total: 1.02s remaining: 463ms
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694: learn: 0.2851803 total: 1.03s remaining: 454ms
695: learn: 0.2851614 total: 1.03s remaining: 452ms
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697: learn: 0.2849634 total: 1.04s remaining: 449ms
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703: learn: 0.2842880 total: 1.05s remaining: 440ms
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705: learn: 0.2840475 total: 1.05s remaining: 437ms
706: learn: 0.2839749 total: 1.05s remaining: 435ms
707: learn: 0.2839396 total: 1.05s remaining: 434ms
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709: learn: 0.2838001 total: 1.05s remaining: 431ms
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711: learn: 0.2836835 total: 1.06s remaining: 428ms
712: learn: 0.2835213 total: 1.06s remaining: 426ms
713: learn: 0.2835066 total: 1.06s remaining: 424ms
714: learn: 0.2834362 total: 1.06s remaining: 423ms
715: learn: 0.2833010 total: 1.06s remaining: 421ms
716: learn: 0.2832267 total: 1.06s remaining: 419ms
717: learn: 0.2831324 total: 1.06s remaining: 418ms
718: learn: 0.2830807 total: 1.06s remaining: 416ms
719: learn: 0.2830592 total: 1.06s remaining: 414ms
720: learn: 0.2828955 total: 1.07s remaining: 413ms
721: learn: 0.2827327 total: 1.07s remaining: 411ms
722: learn: 0.2827192 total: 1.07s remaining: 410ms
723: learn: 0.2825012 total: 1.07s remaining: 408ms
724: learn: 0.2822586 total: 1.07s remaining: 407ms
725: ----- 0.2822000 +----- 1.07s ----- 405ms
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725: learn: 0.2820800 total: 1.07s remaining: 405ms
726: learn: 0.2820397 total: 1.07s remaining: 403ms
727: learn: 0.2817383 total: 1.07s remaining: 402ms
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730: learn: 0.2815564 total: 1.08s remaining: 397ms
731: learn: 0.2813695 total: 1.08s remaining: 396ms
732: learn: 0.2812795 total: 1.08s remaining: 394ms
733: learn: 0.2811799 total: 1.08s remaining: 393ms
734: learn: 0.2811343 total: 1.08s remaining: 391ms
735: learn: 0.2810140 total: 1.09s remaining: 390ms
736: learn: 0.2809888 total: 1.09s remaining: 388ms
737: learn: 0.2809542 total: 1.09s remaining: 387ms
738: learn: 0.2808759 total: 1.09s remaining: 385ms
739: learn: 0.2807346 total: 1.09s remaining: 384ms
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741: learn: 0.2805576 total: 1.09s remaining: 381ms
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743: learn: 0.2802351 total: 1.1s remaining: 378ms
744: learn: 0.2801527 total: 1.1s remaining: 377ms
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746: learn: 0.2798645 total: 1.1s remaining: 374ms
747: learn: 0.2797603 total: 1.1s remaining: 372ms
748: learn: 0.2797375 total: 1.1s remaining: 371ms
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763: learn: 0.2784037 total: 1.13s remaining: 349ms
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765: learn: 0.2782111 total: 1.13s remaining: 346ms
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768: learn: 0.2776700 total: 1.14s remaining: 342ms
769: learn: 0.2775945 total: 1.14s remaining: 340ms
770: learn: 0.2775208 total: 1.14s remaining: 339ms
771: learn: 0.2772717 total: 1.14s remaining: 337ms
772: learn: 0.2770934 total: 1.14s remaining: 336ms
773: learn: 0.2769730 total: 1.14s remaining: 334ms
774: learn: 0.2769005 total: 1.15s remaining: 333ms
775: learn: 0.2768029 total: 1.15s remaining: 331ms
776: learn: 0.2767398 total: 1.15s remaining: 330ms
777: learn: 0.2766410 total: 1.15s remaining: 328ms
778: learn: 0.2765627 total: 1.15s remaining: 327ms
779: learn: 0.2765053 total: 1.15s remaining: 325ms
780: learn: 0.2763183 total: 1.15s remaining: 324ms
781: learn: 0.2761641 total: 1.16s remaining: 322ms
782: learn: 0.2760365 total: 1.16s remaining: 321ms
783: learn: 0.2759405 total: 1.16s remaining: 319ms
784: learn: 0.2758471 total: 1.16s remaining: 318ms
785: learn: 0.2758152 total: 1.16s remaining: 316ms
786: learn: 0.2756935 total: 1.16s remaining: 315ms
787: learn: 0.2756177 total: 1.16s remaining: 313ms
788: learn: 0.2755373 total: 1.17s remaining: 312ms
789: learn: 0.2753519 total: 1.17s remaining: 310ms
790: learn: 0.2753187 total: 1.17s remaining: 309ms
791: learn: 0.2752942 total: 1.17s remaining: 307ms
792: learn: 0.2752892 total: 1.17s remaining: 306ms
793: learn: 0.2752080 total: 1.17s remaining: 304ms
794: learn: 0.2751384 total: 1.17s remaining: 303ms
795: learn: 0.2750213 total: 1.17s remaining: 301ms
796: learn: 0.2749302 total: 1.18s remaining: 300ms
797: ----- 0.2749724 +----- 1.18s ----- 300ms
```

```
191: learn: 0.274148124 total: 1.18s remaining: 290ms
798: learn: 0.2747950 total: 1.18s remaining: 297ms
799: learn: 0.2746565 total: 1.18s remaining: 295ms
800: learn: 0.2745818 total: 1.18s remaining: 293ms
801: learn: 0.2743971 total: 1.18s remaining: 292ms
802: learn: 0.2743425 total: 1.18s remaining: 290ms
803: learn: 0.2742451 total: 1.18s remaining: 289ms
804: learn: 0.2741809 total: 1.19s remaining: 287ms
805: learn: 0.2740863 total: 1.19s remaining: 286ms
806: learn: 0.2740098 total: 1.19s remaining: 284ms
807: learn: 0.2739890 total: 1.19s remaining: 282ms
808: learn: 0.2739460 total: 1.19s remaining: 281ms
809: learn: 0.2738843 total: 1.19s remaining: 279ms
810: learn: 0.2737891 total: 1.19s remaining: 278ms
811: learn: 0.2734841 total: 1.2s remaining: 277ms
812: learn: 0.2732976 total: 1.2s remaining: 275ms
813: learn: 0.2732492 total: 1.2s remaining: 274ms
814: learn: 0.2731827 total: 1.2s remaining: 272ms
815: learn: 0.2730938 total: 1.2s remaining: 271ms
816: learn: 0.2730292 total: 1.2s remaining: 269ms
817: learn: 0.2729250 total: 1.2s remaining: 268ms
818: learn: 0.2728190 total: 1.2s remaining: 266ms
819: learn: 0.2727124 total: 1.21s remaining: 265ms
820: learn: 0.2726612 total: 1.21s remaining: 263ms
821: learn: 0.2725765 total: 1.21s remaining: 262ms
822: learn: 0.2723337 total: 1.21s remaining: 260ms
823: learn: 0.2722639 total: 1.21s remaining: 259ms
824: learn: 0.2721653 total: 1.21s remaining: 257ms
825: learn: 0.2720876 total: 1.22s remaining: 256ms
826: learn: 0.2719524 total: 1.22s remaining: 255ms
827: learn: 0.2718818 total: 1.22s remaining: 253ms
828: learn: 0.2718383 total: 1.22s remaining: 252ms
829: learn: 0.2717481 total: 1.22s remaining: 251ms
830: learn: 0.2717143 total: 1.23s remaining: 249ms
831: learn: 0.2716373 total: 1.23s remaining: 248ms
832: learn: 0.2715141 total: 1.23s remaining: 246ms
833: learn: 0.2714067 total: 1.23s remaining: 245ms
834: learn: 0.2713121 total: 1.23s remaining: 243ms
835: learn: 0.2711973 total: 1.23s remaining: 242ms
836: learn: 0.2710069 total: 1.23s remaining: 240ms
837: learn: 0.2707725 total: 1.23s remaining: 239ms
838: learn: 0.2705023 total: 1.24s remaining: 237ms
839: learn: 0.2704683 total: 1.24s remaining: 236ms
840: learn: 0.2702851 total: 1.24s remaining: 234ms
841: learn: 0.2699585 total: 1.24s remaining: 233ms
842: learn: 0.2698295 total: 1.24s remaining: 232ms
843: learn: 0.2697703 total: 1.24s remaining: 230ms
844: learn: 0.2696851 total: 1.25s remaining: 228ms
845: learn: 0.2695843 total: 1.25s remaining: 227ms
846: learn: 0.2694695 total: 1.25s remaining: 226ms
847: learn: 0.2693121 total: 1.25s remaining: 224ms
848: learn: 0.2691044 total: 1.25s remaining: 223ms
849: learn: 0.2689881 total: 1.25s remaining: 221ms
850: learn: 0.2686386 total: 1.25s remaining: 219ms
851: learn: 0.2685261 total: 1.25s remaining: 218ms
852: learn: 0.2684574 total: 1.25s remaining: 216ms
853: learn: 0.2681995 total: 1.26s remaining: 215ms
854: learn: 0.2680815 total: 1.26s remaining: 213ms
855: learn: 0.2680048 total: 1.26s remaining: 212ms
856: learn: 0.2679412 total: 1.26s remaining: 210ms
857: learn: 0.2678219 total: 1.26s remaining: 209ms
858: learn: 0.2677417 total: 1.26s remaining: 207ms
859: learn: 0.2676384 total: 1.26s remaining: 206ms
860: learn: 0.2673563 total: 1.27s remaining: 204ms
861: learn: 0.2673163 total: 1.27s remaining: 203ms
862: learn: 0.2671640 total: 1.27s remaining: 201ms
863: learn: 0.2671102 total: 1.27s remaining: 200ms
864: learn: 0.2669702 total: 1.27s remaining: 198ms
865: learn: 0.2669088 total: 1.27s remaining: 197ms
866: learn: 0.2668399 total: 1.27s remaining: 195ms
867: learn: 0.2667032 total: 1.27s remaining: 194ms
868: learn: 0.2666461 total: 1.27s remaining: 192ms
869: learn: 0.2665107 total: 1.27s remaining: 191ms
```

```
809: learn: 0.266512 / total: 1.28s remaining: 191ms
870: learn: 0.2664517 total: 1.28s remaining: 189ms
871: learn: 0.2664123 total: 1.28s remaining: 188ms
872: learn: 0.2663491 total: 1.28s remaining: 186ms
873: learn: 0.2661134 total: 1.28s remaining: 185ms
874: learn: 0.2660423 total: 1.28s remaining: 183ms
875: learn: 0.2659931 total: 1.28s remaining: 182ms
876: learn: 0.2657054 total: 1.28s remaining: 180ms
877: learn: 0.2656615 total: 1.29s remaining: 179ms
878: learn: 0.2655970 total: 1.29s remaining: 177ms
879: learn: 0.2654784 total: 1.29s remaining: 176ms
880: learn: 0.2654593 total: 1.29s remaining: 174ms
881: learn: 0.2654156 total: 1.29s remaining: 173ms
882: learn: 0.2653018 total: 1.29s remaining: 171ms
883: learn: 0.2651293 total: 1.29s remaining: 170ms
884: learn: 0.2650376 total: 1.3s remaining: 169ms
885: learn: 0.2647559 total: 1.3s remaining: 167ms
886: learn: 0.2646905 total: 1.3s remaining: 166ms
887: learn: 0.2646252 total: 1.3s remaining: 164ms
888: learn: 0.2645481 total: 1.3s remaining: 163ms
889: learn: 0.2644449 total: 1.3s remaining: 161ms
890: learn: 0.2643279 total: 1.31s remaining: 160ms
891: learn: 0.2642010 total: 1.31s remaining: 158ms
892: learn: 0.2641257 total: 1.31s remaining: 157ms
893: learn: 0.2640613 total: 1.31s remaining: 155ms
894: learn: 0.2640124 total: 1.31s remaining: 154ms
895: learn: 0.2639418 total: 1.31s remaining: 153ms
896: learn: 0.2637394 total: 1.31s remaining: 151ms
897: learn: 0.2636314 total: 1.32s remaining: 150ms
898: learn: 0.2635680 total: 1.32s remaining: 148ms
899: learn: 0.2634397 total: 1.32s remaining: 147ms
900: learn: 0.2633755 total: 1.32s remaining: 145ms
901: learn: 0.2633247 total: 1.32s remaining: 144ms
902: learn: 0.2632382 total: 1.32s remaining: 142ms
903: learn: 0.2631354 total: 1.33s remaining: 141ms
904: learn: 0.2630300 total: 1.33s remaining: 140ms
905: learn: 0.2629026 total: 1.33s remaining: 138ms
906: learn: 0.2628470 total: 1.33s remaining: 137ms
907: learn: 0.2627739 total: 1.33s remaining: 135ms
908: learn: 0.2627476 total: 1.34s remaining: 134ms
909: learn: 0.2626821 total: 1.34s remaining: 132ms
910: learn: 0.2625217 total: 1.34s remaining: 131ms
911: learn: 0.2623633 total: 1.34s remaining: 129ms
912: learn: 0.2621384 total: 1.34s remaining: 128ms
913: learn: 0.2619527 total: 1.34s remaining: 126ms
914: learn: 0.2618972 total: 1.34s remaining: 125ms
915: learn: 0.2618482 total: 1.35s remaining: 124ms
916: learn: 0.2617493 total: 1.35s remaining: 122ms
917: learn: 0.2616616 total: 1.35s remaining: 121ms
918: learn: 0.2614796 total: 1.35s remaining: 119ms
919: learn: 0.2613763 total: 1.35s remaining: 118ms
920: learn: 0.2612861 total: 1.35s remaining: 116ms
921: learn: 0.2612209 total: 1.36s remaining: 115ms
922: learn: 0.2610377 total: 1.36s remaining: 113ms
923: learn: 0.2608211 total: 1.36s remaining: 112ms
924: learn: 0.2607228 total: 1.36s remaining: 110ms
925: learn: 0.2606500 total: 1.36s remaining: 109ms
926: learn: 0.2604062 total: 1.36s remaining: 107ms
927: learn: 0.2603254 total: 1.36s remaining: 106ms
928: learn: 0.2602210 total: 1.36s remaining: 104ms
929: learn: 0.2601499 total: 1.37s remaining: 103ms
930: learn: 0.2600742 total: 1.37s remaining: 101ms
931: learn: 0.2600229 total: 1.37s remaining: 99.9ms
932: learn: 0.2599363 total: 1.37s remaining: 98.4ms
933: learn: 0.2597528 total: 1.37s remaining: 96.9ms
934: learn: 0.2596486 total: 1.37s remaining: 95.4ms
935: learn: 0.2595467 total: 1.37s remaining: 93.9ms
936: learn: 0.2593437 total: 1.37s remaining: 92.4ms
937: learn: 0.2592454 total: 1.38s remaining: 90.9ms
938: learn: 0.2592037 total: 1.38s remaining: 89.4ms
939: learn: 0.2590798 total: 1.38s remaining: 87.9ms
940: learn: 0.2590192 total: 1.38s remaining: 86.5ms
941: learn: 0.25900500 total: 1.38s remaining: 85ms
```

```
941: learn: 0.2589500 total: 1.38s remaining: 80ms
942: learn: 0.2588478 total: 1.38s remaining: 83.5ms
943: learn: 0.2587876 total: 1.38s remaining: 82ms
944: learn: 0.2587361 total: 1.38s remaining: 80.5ms
945: learn: 0.2586720 total: 1.38s remaining: 79ms
946: learn: 0.2585971 total: 1.39s remaining: 77.6ms
947: learn: 0.2584505 total: 1.39s remaining: 76.1ms
948: learn: 0.2583782 total: 1.39s remaining: 74.6ms
949: learn: 0.2583316 total: 1.39s remaining: 73.1ms
950: learn: 0.2582815 total: 1.39s remaining: 71.7ms
951: learn: 0.2582235 total: 1.39s remaining: 70.2ms
952: learn: 0.2581374 total: 1.39s remaining: 68.7ms
953: learn: 0.2580774 total: 1.39s remaining: 67.3ms
954: learn: 0.2579877 total: 1.4s remaining: 65.8ms
955: learn: 0.2578873 total: 1.4s remaining: 64.3ms
956: learn: 0.2576836 total: 1.4s remaining: 62.9ms
957: learn: 0.2576176 total: 1.4s remaining: 61.4ms
958: learn: 0.2575534 total: 1.4s remaining: 59.9ms
959: learn: 0.2574655 total: 1.4s remaining: 58.5ms
960: learn: 0.2573293 total: 1.4s remaining: 57ms
961: learn: 0.2571881 total: 1.41s remaining: 55.5ms
962: learn: 0.2570110 total: 1.41s remaining: 54.1ms
963: learn: 0.2567776 total: 1.41s remaining: 52.6ms
964: learn: 0.2567296 total: 1.41s remaining: 51.2ms
965: learn: 0.2565381 total: 1.41s remaining: 49.7ms
966: learn: 0.2564701 total: 1.41s remaining: 48.3ms
967: learn: 0.2564172 total: 1.42s remaining: 46.8ms
968: learn: 0.2562812 total: 1.42s remaining: 45.3ms
969: learn: 0.2562165 total: 1.42s remaining: 43.8ms
970: learn: 0.2561682 total: 1.42s remaining: 42.4ms
971: learn: 0.2559556 total: 1.42s remaining: 40.9ms
972: learn: 0.2558215 total: 1.42s remaining: 39.5ms
973: learn: 0.2557676 total: 1.42s remaining: 38ms
974: learn: 0.2556791 total: 1.42s remaining: 36.5ms
975: learn: 0.2554815 total: 1.43s remaining: 35.1ms
976: learn: 0.2553885 total: 1.43s remaining: 33.6ms
977: learn: 0.2551907 total: 1.43s remaining: 32.1ms
978: learn: 0.2549156 total: 1.43s remaining: 30.7ms
979: learn: 0.2548539 total: 1.43s remaining: 29.2ms
980: learn: 0.2547924 total: 1.43s remaining: 27.7ms
981: learn: 0.2547445 total: 1.43s remaining: 26.3ms
982: learn: 0.2546812 total: 1.43s remaining: 24.8ms
983: learn: 0.2545032 total: 1.44s remaining: 23.3ms
984: learn: 0.2544660 total: 1.44s remaining: 21.9ms
985: learn: 0.2542088 total: 1.44s remaining: 20.4ms
986: learn: 0.2541190 total: 1.44s remaining: 19ms
987: learn: 0.2540235 total: 1.44s remaining: 17.5ms
988: learn: 0.2538105 total: 1.44s remaining: 16ms
989: learn: 0.2537097 total: 1.44s remaining: 14.6ms
990: learn: 0.2535922 total: 1.44s remaining: 13.1ms
991: learn: 0.2534711 total: 1.45s remaining: 11.7ms
992: learn: 0.2533225 total: 1.45s remaining: 10.2ms
993: learn: 0.2531791 total: 1.45s remaining: 8.74ms
994: learn: 0.2531061 total: 1.45s remaining: 7.28ms
995: learn: 0.2530113 total: 1.45s remaining: 5.82ms
996: learn: 0.2528643 total: 1.45s remaining: 4.37ms
997: learn: 0.2526444 total: 1.45s remaining: 2.91ms
998: learn: 0.2524323 total: 1.45s remaining: 1.46ms
999: learn: 0.2523730 total: 1.46s remaining: 0us
```

Learning rate set to 0.009376

```
0: learn: 0.6867942 total: 2.1ms remaining: 2.09s
1: learn: 0.6834785 total: 2.52ms remaining: 1.26s
2: learn: 0.6781399 total: 3.99ms remaining: 1.33s
3: learn: 0.6725586 total: 9.09ms remaining: 2.26s
4: learn: 0.6666868 total: 12.5ms remaining: 2.49s
5: learn: 0.6615355 total: 14ms remaining: 2.32s
6: learn: 0.6556723 total: 15.4ms remaining: 2.18s
7: learn: 0.6505428 total: 16.7ms remaining: 2.07s
8: learn: 0.6448903 total: 18ms remaining: 1.98s
9: learn: 0.6395347 total: 19.2ms remaining: 1.9s
10: learn: 0.6352672 total: 20.1ms remaining: 1.8s
11: learn: 0.6310173 total: 21ms remaining: 1.73s
12: learn: 0.6267501 total: 21.9ms remaining: 1.66s
```

```
12: learn: 0.5205591 total: 22.2ms remaining: 1.09s
13: learn: 0.6223227 total: 23.5ms remaining: 1.66s
14: learn: 0.6178346 total: 24.9ms remaining: 1.63s
15: learn: 0.6130028 total: 26.2ms remaining: 1.61s
16: learn: 0.6094121 total: 27.1ms remaining: 1.56s
17: learn: 0.6049218 total: 28.2ms remaining: 1.54s
18: learn: 0.6003676 total: 29.7ms remaining: 1.53s
19: learn: 0.5967729 total: 30.4ms remaining: 1.49s
20: learn: 0.5932076 total: 31.3ms remaining: 1.46s
21: learn: 0.5894260 total: 32.9ms remaining: 1.46s
22: learn: 0.5863162 total: 34.1ms remaining: 1.45s
23: learn: 0.5821156 total: 35.6ms remaining: 1.45s
24: learn: 0.5779217 total: 37ms remaining: 1.44s
25: learn: 0.5749656 total: 38.1ms remaining: 1.43s
26: learn: 0.5717147 total: 39.6ms remaining: 1.43s
27: learn: 0.5675971 total: 41.2ms remaining: 1.43s
28: learn: 0.5642425 total: 42.3ms remaining: 1.42s
29: learn: 0.5608759 total: 43.6ms remaining: 1.41s
30: learn: 0.5575055 total: 45ms remaining: 1.41s
31: learn: 0.5545809 total: 46.4ms remaining: 1.4s
32: learn: 0.5517100 total: 47.8ms remaining: 1.4s
33: learn: 0.5482000 total: 49.1ms remaining: 1.39s
34: learn: 0.5453531 total: 50.2ms remaining: 1.39s
35: learn: 0.5428083 total: 51.1ms remaining: 1.37s
36: learn: 0.5398543 total: 52.4ms remaining: 1.36s
37: learn: 0.5376498 total: 53.1ms remaining: 1.34s
38: learn: 0.5350669 total: 54ms remaining: 1.33s
39: learn: 0.5333403 total: 55ms remaining: 1.32s
40: learn: 0.5301271 total: 56.4ms remaining: 1.32s
41: learn: 0.5275619 total: 57.6ms remaining: 1.31s
42: learn: 0.5253206 total: 58.7ms remaining: 1.31s
43: learn: 0.5234718 total: 59.5ms remaining: 1.29s
44: learn: 0.5207867 total: 61.1ms remaining: 1.3s
45: learn: 0.5183210 total: 62.3ms remaining: 1.29s
46: learn: 0.5166498 total: 62.8ms remaining: 1.27s
47: learn: 0.5139792 total: 64ms remaining: 1.27s
48: learn: 0.5111969 total: 65.4ms remaining: 1.27s
49: learn: 0.5101534 total: 65.9ms remaining: 1.25s
50: learn: 0.5079911 total: 66.9ms remaining: 1.25s
51: learn: 0.5055179 total: 68.6ms remaining: 1.25s
52: learn: 0.5037385 total: 69.7ms remaining: 1.25s
53: learn: 0.5014479 total: 71ms remaining: 1.24s
54: learn: 0.4994874 total: 72.3ms remaining: 1.24s
55: learn: 0.4970194 total: 73.6ms remaining: 1.24s
56: learn: 0.4951997 total: 75.6ms remaining: 1.25s
57: learn: 0.4930728 total: 77.3ms remaining: 1.25s
58: learn: 0.4914362 total: 78.5ms remaining: 1.25s
59: learn: 0.4892079 total: 79.9ms remaining: 1.25s
60: learn: 0.4870173 total: 82ms remaining: 1.26s
61: learn: 0.4850371 total: 83.7ms remaining: 1.27s
62: learn: 0.4836449 total: 84.9ms remaining: 1.26s
63: learn: 0.4822743 total: 86.2ms remaining: 1.26s
64: learn: 0.4805107 total: 87.5ms remaining: 1.26s
65: learn: 0.4786568 total: 89.1ms remaining: 1.26s
66: learn: 0.4769106 total: 91.1ms remaining: 1.27s
67: learn: 0.4752018 total: 93.2ms remaining: 1.28s
68: learn: 0.4735806 total: 94.6ms remaining: 1.28s
69: learn: 0.4719413 total: 95.9ms remaining: 1.27s
70: learn: 0.4704084 total: 97ms remaining: 1.27s
71: learn: 0.4690388 total: 98.3ms remaining: 1.27s
72: learn: 0.4673602 total: 99.6ms remaining: 1.26s
73: learn: 0.4656115 total: 101ms remaining: 1.26s
74: learn: 0.4650345 total: 102ms remaining: 1.25s
75: learn: 0.4638694 total: 104ms remaining: 1.26s
76: learn: 0.4623378 total: 106ms remaining: 1.26s
77: learn: 0.4609729 total: 107ms remaining: 1.27s
78: learn: 0.4594286 total: 108ms remaining: 1.26s
79: learn: 0.4582962 total: 110ms remaining: 1.26s
80: learn: 0.4571799 total: 111ms remaining: 1.26s
81: learn: 0.4564801 total: 112ms remaining: 1.26s
82: learn: 0.4553227 total: 114ms remaining: 1.26s
83: learn: 0.4541452 total: 117ms remaining: 1.27s
84: learn: 0.4529422 total: 119ms remaining: 1.27s
```

84: learn: 0.4529422 total: 110ms remaining: 1.27s
85: learn: 0.4516923 total: 120ms remaining: 1.27s
86: learn: 0.4503585 total: 122ms remaining: 1.27s
87: learn: 0.4489801 total: 123ms remaining: 1.27s
88: learn: 0.4477872 total: 125ms remaining: 1.28s
89: learn: 0.4467556 total: 127ms remaining: 1.28s
90: learn: 0.4459394 total: 127ms remaining: 1.27s
91: learn: 0.4446519 total: 129ms remaining: 1.27s
92: learn: 0.4434546 total: 131ms remaining: 1.27s
93: learn: 0.4425913 total: 133ms remaining: 1.28s
94: learn: 0.4416759 total: 134ms remaining: 1.28s
95: learn: 0.4406992 total: 136ms remaining: 1.28s
96: learn: 0.4398273 total: 138ms remaining: 1.28s
97: learn: 0.4388669 total: 140ms remaining: 1.28s
98: learn: 0.4376122 total: 141ms remaining: 1.28s
99: learn: 0.4369223 total: 142ms remaining: 1.28s
100: learn: 0.4360109 total: 144ms remaining: 1.28s
101: learn: 0.4351130 total: 145ms remaining: 1.28s
102: learn: 0.4342564 total: 147ms remaining: 1.28s
103: learn: 0.4337703 total: 148ms remaining: 1.27s
104: learn: 0.4330055 total: 150ms remaining: 1.28s
105: learn: 0.4321506 total: 152ms remaining: 1.28s
106: learn: 0.4312570 total: 154ms remaining: 1.28s
107: learn: 0.4305010 total: 155ms remaining: 1.28s
108: learn: 0.4299173 total: 156ms remaining: 1.27s
109: learn: 0.4289009 total: 157ms remaining: 1.27s
110: learn: 0.4283534 total: 159ms remaining: 1.27s
111: learn: 0.4276049 total: 160ms remaining: 1.27s
112: learn: 0.4265738 total: 162ms remaining: 1.27s
113: learn: 0.4257636 total: 164ms remaining: 1.27s
114: learn: 0.4249297 total: 166ms remaining: 1.27s
115: learn: 0.4239021 total: 167ms remaining: 1.27s
116: learn: 0.4230586 total: 169ms remaining: 1.27s
117: learn: 0.4224840 total: 171ms remaining: 1.28s
118: learn: 0.4220362 total: 173ms remaining: 1.28s
119: learn: 0.4213329 total: 176ms remaining: 1.29s
120: learn: 0.4205750 total: 177ms remaining: 1.29s
121: learn: 0.4201033 total: 179ms remaining: 1.29s
122: learn: 0.4195237 total: 181ms remaining: 1.29s
123: learn: 0.4189211 total: 182ms remaining: 1.29s
124: learn: 0.4181540 total: 184ms remaining: 1.29s
125: learn: 0.4173870 total: 186ms remaining: 1.29s
126: learn: 0.4169089 total: 188ms remaining: 1.29s
127: learn: 0.4162295 total: 190ms remaining: 1.29s
128: learn: 0.4156363 total: 191ms remaining: 1.29s
129: learn: 0.4149096 total: 193ms remaining: 1.29s
130: learn: 0.4141923 total: 195ms remaining: 1.29s
131: learn: 0.4134593 total: 197ms remaining: 1.29s
132: learn: 0.4129573 total: 199ms remaining: 1.29s
133: learn: 0.4123650 total: 200ms remaining: 1.29s
134: learn: 0.4119312 total: 202ms remaining: 1.29s
135: learn: 0.4116918 total: 203ms remaining: 1.29s
136: learn: 0.4113386 total: 205ms remaining: 1.29s
137: learn: 0.4108136 total: 206ms remaining: 1.29s
138: learn: 0.4103609 total: 208ms remaining: 1.29s
139: learn: 0.4096689 total: 209ms remaining: 1.28s
140: learn: 0.4092065 total: 210ms remaining: 1.28s
141: learn: 0.4087552 total: 212ms remaining: 1.28s
142: learn: 0.4082381 total: 213ms remaining: 1.28s
143: learn: 0.4078256 total: 215ms remaining: 1.28s
144: learn: 0.4072436 total: 216ms remaining: 1.27s
145: learn: 0.4066652 total: 218ms remaining: 1.27s
146: learn: 0.4061881 total: 219ms remaining: 1.27s
147: learn: 0.4058820 total: 221ms remaining: 1.27s
148: learn: 0.4055033 total: 222ms remaining: 1.27s
149: learn: 0.4050586 total: 224ms remaining: 1.27s
150: learn: 0.4046713 total: 225ms remaining: 1.26s
151: learn: 0.4043505 total: 226ms remaining: 1.26s
152: learn: 0.4039052 total: 227ms remaining: 1.26s
153: learn: 0.4031885 total: 229ms remaining: 1.26s
154: learn: 0.4027490 total: 231ms remaining: 1.26s
155: learn: 0.4022510 total: 233ms remaining: 1.26s
156: ----- 0.4010172 +----- 0.24ms ----- 1.25s

```
150: learn: 0.4019172 total: 234ms remaining: 1.25s
157: learn: 0.4015846 total: 235ms remaining: 1.25s
158: learn: 0.4012709 total: 236ms remaining: 1.25s
159: learn: 0.4009858 total: 237ms remaining: 1.25s
160: learn: 0.4006109 total: 238ms remaining: 1.24s
161: learn: 0.4002014 total: 240ms remaining: 1.24s
162: learn: 0.3997602 total: 242ms remaining: 1.24s
163: learn: 0.3994028 total: 243ms remaining: 1.24s
164: learn: 0.3991531 total: 244ms remaining: 1.24s
165: learn: 0.3989224 total: 246ms remaining: 1.23s
166: learn: 0.3983053 total: 247ms remaining: 1.23s
167: learn: 0.3978019 total: 248ms remaining: 1.23s
168: learn: 0.3975614 total: 250ms remaining: 1.23s
169: learn: 0.3973005 total: 251ms remaining: 1.22s
170: learn: 0.3970489 total: 252ms remaining: 1.22s
171: learn: 0.3966501 total: 254ms remaining: 1.22s
172: learn: 0.3961467 total: 255ms remaining: 1.22s
173: learn: 0.3958017 total: 257ms remaining: 1.22s
174: learn: 0.3953174 total: 258ms remaining: 1.22s
175: learn: 0.3949356 total: 259ms remaining: 1.21s
176: learn: 0.3946778 total: 261ms remaining: 1.21s
177: learn: 0.3942222 total: 262ms remaining: 1.21s
178: learn: 0.3938144 total: 263ms remaining: 1.21s
179: learn: 0.3935029 total: 264ms remaining: 1.2s
180: learn: 0.3930452 total: 265ms remaining: 1.2s
181: learn: 0.3927362 total: 267ms remaining: 1.2s
182: learn: 0.3925963 total: 268ms remaining: 1.2s
183: learn: 0.3922489 total: 270ms remaining: 1.2s
184: learn: 0.3918166 total: 271ms remaining: 1.19s
185: learn: 0.3915642 total: 273ms remaining: 1.19s
186: learn: 0.3913406 total: 274ms remaining: 1.19s
187: learn: 0.3908940 total: 275ms remaining: 1.19s
188: learn: 0.3905419 total: 277ms remaining: 1.19s
189: learn: 0.3903672 total: 278ms remaining: 1.19s
190: learn: 0.3900544 total: 280ms remaining: 1.19s
191: learn: 0.3897586 total: 281ms remaining: 1.18s
192: learn: 0.3893223 total: 283ms remaining: 1.18s
193: learn: 0.3889984 total: 285ms remaining: 1.18s
194: learn: 0.3887312 total: 286ms remaining: 1.18s
195: learn: 0.3884354 total: 288ms remaining: 1.18s
196: learn: 0.3881777 total: 289ms remaining: 1.18s
197: learn: 0.3880575 total: 291ms remaining: 1.18s
198: learn: 0.3878692 total: 293ms remaining: 1.18s
199: learn: 0.3874252 total: 294ms remaining: 1.18s
200: learn: 0.3871245 total: 295ms remaining: 1.17s
201: learn: 0.3867519 total: 296ms remaining: 1.17s
202: learn: 0.3864762 total: 298ms remaining: 1.17s
203: learn: 0.3860081 total: 300ms remaining: 1.17s
204: learn: 0.3858659 total: 301ms remaining: 1.17s
205: learn: 0.3857217 total: 302ms remaining: 1.16s
206: learn: 0.3853711 total: 303ms remaining: 1.16s
207: learn: 0.3850784 total: 305ms remaining: 1.16s
208: learn: 0.3847925 total: 306ms remaining: 1.16s
209: learn: 0.3844765 total: 308ms remaining: 1.16s
210: learn: 0.3841367 total: 309ms remaining: 1.16s
211: learn: 0.3837396 total: 311ms remaining: 1.16s
212: learn: 0.3836086 total: 312ms remaining: 1.15s
213: learn: 0.3832419 total: 313ms remaining: 1.15s
214: learn: 0.3831074 total: 315ms remaining: 1.15s
215: learn: 0.3827142 total: 316ms remaining: 1.15s
216: learn: 0.3823014 total: 318ms remaining: 1.15s
217: learn: 0.3820503 total: 320ms remaining: 1.15s
218: learn: 0.3817209 total: 321ms remaining: 1.15s
219: learn: 0.3813355 total: 323ms remaining: 1.14s
220: learn: 0.3810011 total: 324ms remaining: 1.14s
221: learn: 0.3807843 total: 325ms remaining: 1.14s
222: learn: 0.3804812 total: 326ms remaining: 1.14s
223: learn: 0.3802492 total: 328ms remaining: 1.14s
224: learn: 0.3798757 total: 330ms remaining: 1.14s
225: learn: 0.3797155 total: 331ms remaining: 1.13s
226: learn: 0.3795135 total: 333ms remaining: 1.14s
227: learn: 0.3792915 total: 335ms remaining: 1.14s
228: ----- 0.3791000 +----- 227ms ----- 1.12s
```

```
228: learn: 0.3791202 total: 339ms remaining: 1.10s
229: learn: 0.3788800 total: 338ms remaining: 1.13s
230: learn: 0.3788051 total: 340ms remaining: 1.13s
231: learn: 0.3784846 total: 341ms remaining: 1.13s
232: learn: 0.3782419 total: 343ms remaining: 1.13s
233: learn: 0.3778921 total: 344ms remaining: 1.13s
234: learn: 0.3776746 total: 347ms remaining: 1.13s
235: learn: 0.3775272 total: 348ms remaining: 1.13s
236: learn: 0.3773040 total: 350ms remaining: 1.13s
237: learn: 0.3769488 total: 352ms remaining: 1.13s
238: learn: 0.3767993 total: 353ms remaining: 1.13s
239: learn: 0.3764858 total: 355ms remaining: 1.12s
240: learn: 0.3763183 total: 358ms remaining: 1.13s
241: learn: 0.3760418 total: 360ms remaining: 1.13s
242: learn: 0.3757713 total: 362ms remaining: 1.13s
243: learn: 0.3755107 total: 363ms remaining: 1.12s
244: learn: 0.3753994 total: 364ms remaining: 1.12s
245: learn: 0.3753488 total: 364ms remaining: 1.12s
246: learn: 0.3750615 total: 365ms remaining: 1.11s
247: learn: 0.3747044 total: 366ms remaining: 1.11s
248: learn: 0.3744873 total: 367ms remaining: 1.11s
249: learn: 0.3742851 total: 368ms remaining: 1.1s
250: learn: 0.3741507 total: 369ms remaining: 1.1s
251: learn: 0.3739368 total: 370ms remaining: 1.1s
252: learn: 0.3735557 total: 372ms remaining: 1.1s
253: learn: 0.3734996 total: 372ms remaining: 1.09s
254: learn: 0.3734138 total: 374ms remaining: 1.09s
255: learn: 0.3731841 total: 376ms remaining: 1.09s
256: learn: 0.3729886 total: 377ms remaining: 1.09s
257: learn: 0.3728367 total: 379ms remaining: 1.09s
258: learn: 0.3725589 total: 380ms remaining: 1.09s
259: learn: 0.3724242 total: 381ms remaining: 1.08s
260: learn: 0.3721966 total: 382ms remaining: 1.08s
261: learn: 0.3721266 total: 383ms remaining: 1.08s
262: learn: 0.3717896 total: 386ms remaining: 1.08s
263: learn: 0.3716721 total: 387ms remaining: 1.08s
264: learn: 0.3714460 total: 389ms remaining: 1.08s
265: learn: 0.3711421 total: 390ms remaining: 1.08s
266: learn: 0.3709806 total: 391ms remaining: 1.07s
267: learn: 0.3709662 total: 392ms remaining: 1.07s
268: learn: 0.3707485 total: 393ms remaining: 1.07s
269: learn: 0.3706085 total: 394ms remaining: 1.07s
270: learn: 0.3703507 total: 396ms remaining: 1.06s
271: learn: 0.3702372 total: 396ms remaining: 1.06s
272: learn: 0.3699510 total: 397ms remaining: 1.06s
273: learn: 0.3698494 total: 398ms remaining: 1.05s
274: learn: 0.3696358 total: 399ms remaining: 1.05s
275: learn: 0.3695376 total: 400ms remaining: 1.05s
276: learn: 0.3692961 total: 401ms remaining: 1.04s
277: learn: 0.3690288 total: 402ms remaining: 1.04s
278: learn: 0.3687372 total: 404ms remaining: 1.04s
279: learn: 0.3685887 total: 405ms remaining: 1.04s
280: learn: 0.3684805 total: 406ms remaining: 1.04s
281: learn: 0.3683331 total: 407ms remaining: 1.04s
282: learn: 0.3680615 total: 408ms remaining: 1.03s
283: learn: 0.3677844 total: 410ms remaining: 1.03s
284: learn: 0.3676000 total: 411ms remaining: 1.03s
285: learn: 0.3673907 total: 413ms remaining: 1.03s
286: learn: 0.3671436 total: 415ms remaining: 1.03s
287: learn: 0.3667958 total: 416ms remaining: 1.03s
288: learn: 0.3665683 total: 417ms remaining: 1.03s
289: learn: 0.3664425 total: 419ms remaining: 1.02s
290: learn: 0.3662505 total: 420ms remaining: 1.02s
291: learn: 0.3659828 total: 421ms remaining: 1.02s
292: learn: 0.3657959 total: 422ms remaining: 1.02s
293: learn: 0.3656734 total: 424ms remaining: 1.02s
294: learn: 0.3653109 total: 425ms remaining: 1.01s
295: learn: 0.3651788 total: 426ms remaining: 1.01s
296: learn: 0.3650116 total: 427ms remaining: 1.01s
297: learn: 0.3649185 total: 429ms remaining: 1.01s
298: learn: 0.3648247 total: 430ms remaining: 1.01s
299: learn: 0.3647330 total: 432ms remaining: 1.01s
300: ----- 0.3645150 +----- 1.01s
```

300: learn: 0.3645150 total: 435ms remaining: 1.01s
301: learn: 0.3642111 total: 435ms remaining: 1s
302: learn: 0.3640392 total: 436ms remaining: 1s
303: learn: 0.3639563 total: 438ms remaining: 1s
304: learn: 0.3638699 total: 439ms remaining: 1000ms
305: learn: 0.3636044 total: 440ms remaining: 998ms
306: learn: 0.3634221 total: 441ms remaining: 996ms
307: learn: 0.3632383 total: 442ms remaining: 994ms
308: learn: 0.3630584 total: 443ms remaining: 992ms
309: learn: 0.3628664 total: 444ms remaining: 989ms
310: learn: 0.3628033 total: 446ms remaining: 988ms
311: learn: 0.3626014 total: 447ms remaining: 986ms
312: learn: 0.3624306 total: 448ms remaining: 984ms
313: learn: 0.3622397 total: 450ms remaining: 983ms
314: learn: 0.3621965 total: 451ms remaining: 981ms
315: learn: 0.3620931 total: 452ms remaining: 978ms
316: learn: 0.3618750 total: 453ms remaining: 976ms
317: learn: 0.3616303 total: 454ms remaining: 974ms
318: learn: 0.3614055 total: 455ms remaining: 972ms
319: learn: 0.3612638 total: 456ms remaining: 970ms
320: learn: 0.3610920 total: 457ms remaining: 968ms
321: learn: 0.3609737 total: 459ms remaining: 966ms
322: learn: 0.3608823 total: 460ms remaining: 964ms
323: learn: 0.3606328 total: 461ms remaining: 962ms
324: learn: 0.3606160 total: 462ms remaining: 959ms
325: learn: 0.3604555 total: 463ms remaining: 958ms
326: learn: 0.3603164 total: 464ms remaining: 956ms
327: learn: 0.3602555 total: 466ms remaining: 954ms
328: learn: 0.3599528 total: 467ms remaining: 952ms
329: learn: 0.3596958 total: 468ms remaining: 950ms
330: learn: 0.3594034 total: 469ms remaining: 949ms
331: learn: 0.3591911 total: 471ms remaining: 948ms
332: learn: 0.3590194 total: 472ms remaining: 946ms
333: learn: 0.3588473 total: 474ms remaining: 945ms
334: learn: 0.3587582 total: 476ms remaining: 944ms
335: learn: 0.3585924 total: 477ms remaining: 943ms
336: learn: 0.3584661 total: 479ms remaining: 942ms
337: learn: 0.3582833 total: 481ms remaining: 941ms
338: learn: 0.3582332 total: 481ms remaining: 939ms
339: learn: 0.3580752 total: 482ms remaining: 936ms
340: learn: 0.3580334 total: 483ms remaining: 934ms
341: learn: 0.3579002 total: 485ms remaining: 932ms
342: learn: 0.3578772 total: 485ms remaining: 929ms
343: learn: 0.3577070 total: 488ms remaining: 930ms
344: learn: 0.3575459 total: 489ms remaining: 928ms
345: learn: 0.3574174 total: 492ms remaining: 930ms
346: learn: 0.3571577 total: 494ms remaining: 929ms
347: learn: 0.3570342 total: 496ms remaining: 928ms
348: learn: 0.3568613 total: 497ms remaining: 926ms
349: learn: 0.3566642 total: 500ms remaining: 929ms
350: learn: 0.3563193 total: 503ms remaining: 930ms
351: learn: 0.3559868 total: 504ms remaining: 928ms
352: learn: 0.3558839 total: 506ms remaining: 927ms
353: learn: 0.3558375 total: 507ms remaining: 926ms
354: learn: 0.3557322 total: 509ms remaining: 926ms
355: learn: 0.3554896 total: 511ms remaining: 925ms
356: learn: 0.3553745 total: 513ms remaining: 923ms
357: learn: 0.3552343 total: 514ms remaining: 922ms
358: learn: 0.3550733 total: 516ms remaining: 921ms
359: learn: 0.3550035 total: 517ms remaining: 920ms
360: learn: 0.3547691 total: 519ms remaining: 919ms
361: learn: 0.3546981 total: 520ms remaining: 917ms
362: learn: 0.3546115 total: 522ms remaining: 915ms
363: learn: 0.3545993 total: 522ms remaining: 913ms
364: learn: 0.3544873 total: 523ms remaining: 911ms
365: learn: 0.3544552 total: 525ms remaining: 909ms
366: learn: 0.3543654 total: 526ms remaining: 907ms
367: learn: 0.3542250 total: 528ms remaining: 906ms
368: learn: 0.3541163 total: 530ms remaining: 906ms
369: learn: 0.3539648 total: 532ms remaining: 906ms
370: learn: 0.3537634 total: 534ms remaining: 905ms
371: learn: 0.3536986 total: 536ms remaining: 904ms

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512: learn: 0.3554951 total: 550ms remaining: 904ms
373: learn: 0.3534261 total: 540ms remaining: 904ms
374: learn: 0.3533288 total: 542ms remaining: 904ms
375: learn: 0.3532406 total: 544ms remaining: 903ms
376: learn: 0.3530783 total: 547ms remaining: 903ms
377: learn: 0.3530018 total: 548ms remaining: 902ms
378: learn: 0.3527874 total: 551ms remaining: 903ms
379: learn: 0.3524780 total: 553ms remaining: 902ms
380: learn: 0.3522686 total: 554ms remaining: 900ms
381: learn: 0.3521509 total: 555ms remaining: 898ms
382: learn: 0.3518405 total: 557ms remaining: 897ms
383: learn: 0.3516275 total: 558ms remaining: 895ms
384: learn: 0.3514886 total: 560ms remaining: 894ms
385: learn: 0.3513893 total: 561ms remaining: 892ms
386: learn: 0.3512638 total: 562ms remaining: 890ms
387: learn: 0.3511412 total: 563ms remaining: 889ms
388: learn: 0.3510084 total: 565ms remaining: 887ms
389: learn: 0.3509626 total: 566ms remaining: 886ms
390: learn: 0.3508575 total: 567ms remaining: 884ms
391: learn: 0.3507432 total: 569ms remaining: 883ms
392: learn: 0.3506182 total: 571ms remaining: 882ms
393: learn: 0.3505220 total: 573ms remaining: 882ms
394: learn: 0.3504228 total: 576ms remaining: 882ms
395: learn: 0.3502779 total: 577ms remaining: 880ms
396: learn: 0.3501396 total: 579ms remaining: 879ms
397: learn: 0.3500463 total: 581ms remaining: 879ms
398: learn: 0.3499463 total: 585ms remaining: 881ms
399: learn: 0.3498404 total: 588ms remaining: 882ms
400: learn: 0.3497106 total: 589ms remaining: 880ms
401: learn: 0.3495085 total: 591ms remaining: 878ms
402: learn: 0.3493156 total: 592ms remaining: 877ms
403: learn: 0.3491089 total: 593ms remaining: 876ms
404: learn: 0.3488830 total: 595ms remaining: 874ms
405: learn: 0.3487188 total: 596ms remaining: 872ms
406: learn: 0.3486009 total: 598ms remaining: 872ms
407: learn: 0.3482784 total: 600ms remaining: 871ms
408: learn: 0.3481777 total: 602ms remaining: 870ms
409: learn: 0.3479552 total: 604ms remaining: 869ms
410: learn: 0.3477623 total: 606ms remaining: 869ms
411: learn: 0.3476008 total: 609ms remaining: 868ms
412: learn: 0.3474984 total: 611ms remaining: 868ms
413: learn: 0.3473603 total: 612ms remaining: 866ms
414: learn: 0.3472787 total: 614ms remaining: 865ms
415: learn: 0.3471913 total: 615ms remaining: 863ms
416: learn: 0.3470752 total: 616ms remaining: 861ms
417: learn: 0.3469224 total: 617ms remaining: 860ms
418: learn: 0.3467972 total: 618ms remaining: 858ms
419: learn: 0.3466075 total: 620ms remaining: 856ms
420: learn: 0.3464905 total: 621ms remaining: 854ms
421: learn: 0.3464852 total: 621ms remaining: 851ms
422: learn: 0.3462965 total: 622ms remaining: 849ms
423: learn: 0.3460559 total: 624ms remaining: 847ms
424: learn: 0.3459436 total: 625ms remaining: 846ms
425: learn: 0.3458199 total: 626ms remaining: 844ms
426: learn: 0.3457148 total: 628ms remaining: 842ms
427: learn: 0.3455643 total: 629ms remaining: 841ms
428: learn: 0.3455103 total: 630ms remaining: 839ms
429: learn: 0.3453277 total: 632ms remaining: 838ms
430: learn: 0.3451824 total: 633ms remaining: 836ms
431: learn: 0.3451624 total: 634ms remaining: 834ms
432: learn: 0.3451535 total: 635ms remaining: 832ms
433: learn: 0.3451413 total: 636ms remaining: 830ms
434: learn: 0.3450034 total: 637ms remaining: 828ms
435: learn: 0.3448147 total: 639ms remaining: 826ms
436: learn: 0.3446818 total: 640ms remaining: 825ms
437: learn: 0.3444294 total: 642ms remaining: 823ms
438: learn: 0.3443262 total: 643ms remaining: 822ms
439: learn: 0.3442477 total: 644ms remaining: 820ms
440: learn: 0.3440699 total: 646ms remaining: 818ms
441: learn: 0.3439649 total: 647ms remaining: 817ms
442: learn: 0.3437234 total: 649ms remaining: 815ms
443: learn: 0.3435143 total: 650ms remaining: 814ms
444: learn: 0.3433100 total: 651ms remaining: 812ms
```

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444: learn: 0.3454489 total: 65ms remaining: 812ms
445: learn: 0.3432932 total: 652ms remaining: 810ms
446: learn: 0.3432273 total: 654ms remaining: 809ms
447: learn: 0.3432243 total: 655ms remaining: 807ms
448: learn: 0.3431893 total: 656ms remaining: 804ms
449: learn: 0.3430312 total: 657ms remaining: 803ms
450: learn: 0.3429568 total: 658ms remaining: 801ms
451: learn: 0.3428310 total: 659ms remaining: 799ms
452: learn: 0.3427046 total: 660ms remaining: 797ms
453: learn: 0.3426545 total: 661ms remaining: 795ms
454: learn: 0.3425910 total: 662ms remaining: 793ms
455: learn: 0.3424834 total: 664ms remaining: 792ms
456: learn: 0.3423573 total: 666ms remaining: 791ms
457: learn: 0.3422903 total: 667ms remaining: 789ms
458: learn: 0.3421084 total: 668ms remaining: 787ms
459: learn: 0.3419260 total: 670ms remaining: 787ms
460: learn: 0.3419236 total: 672ms remaining: 786ms
461: learn: 0.3418453 total: 673ms remaining: 784ms
462: learn: 0.3416859 total: 676ms remaining: 784ms
463: learn: 0.3415297 total: 677ms remaining: 783ms
464: learn: 0.3414351 total: 679ms remaining: 781ms
465: learn: 0.3411670 total: 681ms remaining: 780ms
466: learn: 0.3410560 total: 683ms remaining: 779ms
467: learn: 0.3408444 total: 684ms remaining: 778ms
468: learn: 0.3407269 total: 686ms remaining: 776ms
469: learn: 0.3406292 total: 688ms remaining: 775ms
470: learn: 0.3404981 total: 689ms remaining: 774ms
471: learn: 0.3403560 total: 691ms remaining: 773ms
472: learn: 0.3402193 total: 693ms remaining: 772ms
473: learn: 0.3401339 total: 694ms remaining: 771ms
474: learn: 0.3400217 total: 696ms remaining: 770ms
475: learn: 0.3398877 total: 699ms remaining: 770ms
476: learn: 0.3398626 total: 701ms remaining: 769ms
477: learn: 0.3397628 total: 706ms remaining: 771ms
478: learn: 0.3396834 total: 707ms remaining: 769ms
479: learn: 0.3396814 total: 708ms remaining: 767ms
480: learn: 0.3396239 total: 709ms remaining: 765ms
481: learn: 0.3395589 total: 710ms remaining: 763ms
482: learn: 0.3394762 total: 712ms remaining: 762ms
483: learn: 0.3393620 total: 713ms remaining: 760ms
484: learn: 0.3390836 total: 715ms remaining: 759ms
485: learn: 0.3389234 total: 716ms remaining: 758ms
486: learn: 0.3387709 total: 718ms remaining: 756ms
487: learn: 0.3387361 total: 719ms remaining: 754ms
488: learn: 0.3386155 total: 721ms remaining: 753ms
489: learn: 0.3385235 total: 722ms remaining: 752ms
490: learn: 0.3384896 total: 724ms remaining: 750ms
491: learn: 0.3384802 total: 725ms remaining: 748ms
492: learn: 0.3383706 total: 726ms remaining: 746ms
493: learn: 0.3382628 total: 727ms remaining: 745ms
494: learn: 0.3381554 total: 729ms remaining: 743ms
495: learn: 0.3379957 total: 730ms remaining: 742ms
496: learn: 0.3379214 total: 731ms remaining: 740ms
497: learn: 0.3377195 total: 733ms remaining: 739ms
498: learn: 0.3375514 total: 734ms remaining: 737ms
499: learn: 0.3374300 total: 736ms remaining: 736ms
500: learn: 0.3373164 total: 737ms remaining: 734ms
501: learn: 0.3372258 total: 738ms remaining: 733ms
502: learn: 0.3370891 total: 740ms remaining: 731ms
503: learn: 0.3369659 total: 742ms remaining: 730ms
504: learn: 0.3369209 total: 743ms remaining: 728ms
505: learn: 0.3368335 total: 745ms remaining: 727ms
506: learn: 0.3366690 total: 747ms remaining: 726ms
507: learn: 0.3365781 total: 748ms remaining: 724ms
508: learn: 0.3364940 total: 749ms remaining: 723ms
509: learn: 0.3363321 total: 751ms remaining: 721ms
510: learn: 0.3362555 total: 753ms remaining: 720ms
511: learn: 0.3361816 total: 754ms remaining: 719ms
512: learn: 0.3361356 total: 756ms remaining: 718ms
513: learn: 0.3361182 total: 758ms remaining: 717ms
514: learn: 0.3359128 total: 759ms remaining: 715ms
515: learn: 0.3357949 total: 761ms remaining: 713ms
516: learn: 0.3357012 total: 762ms remaining: 712ms
```

```
510: learn: 0.3351912 total: 762ms remaining: 712ms
511: learn: 0.3356849 total: 763ms remaining: 710ms
512: learn: 0.3356640 total: 764ms remaining: 708ms
513: learn: 0.3355648 total: 765ms remaining: 707ms
514: learn: 0.3354855 total: 767ms remaining: 705ms
515: learn: 0.3352488 total: 768ms remaining: 703ms
516: learn: 0.3351558 total: 769ms remaining: 701ms
517: learn: 0.3350008 total: 770ms remaining: 699ms
518: learn: 0.3349180 total: 771ms remaining: 697ms
519: learn: 0.3348086 total: 772ms remaining: 696ms
520: learn: 0.3346383 total: 774ms remaining: 695ms
521: learn: 0.3345134 total: 775ms remaining: 693ms
522: learn: 0.3344325 total: 776ms remaining: 691ms
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524: learn: 0.3342114 total: 778ms remaining: 688ms
525: learn: 0.3341911 total: 780ms remaining: 686ms
526: learn: 0.3338754 total: 782ms remaining: 685ms
527: learn: 0.3338014 total: 783ms remaining: 684ms
528: learn: 0.3336821 total: 785ms remaining: 683ms
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558: learn: 0.3302866 total: 829ms remaining: 638ms
559: learn: 0.3302225 total: 831ms remaining: 637ms
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566: learn: 0.3293316 total: 843ms remaining: 628ms
567: learn: 0.3292465 total: 845ms remaining: 627ms
568: learn: 0.3292025 total: 846ms remaining: 625ms
569: learn: 0.3290625 total: 847ms remaining: 624ms
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579: learn: 0.3281603 total: 861ms remaining: 608ms
580: learn: 0.3279220 total: 862ms remaining: 606ms
581: learn: 0.3278917 total: 863ms remaining: 604ms
582: learn: 0.3278000 total: 864ms remaining: 602ms
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590: learn: 0.3276162 total: 867ms remaining: 600ms
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594: learn: 0.3271468 total: 871ms remaining: 593ms
595: learn: 0.3271162 total: 873ms remaining: 592ms
596: learn: 0.3270128 total: 874ms remaining: 590ms
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607: learn: 0.3258924 total: 888ms remaining: 573ms
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609: learn: 0.3256489 total: 892ms remaining: 571ms
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613: learn: 0.3253740 total: 897ms remaining: 564ms
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621: learn: 0.3244715 total: 906ms remaining: 551ms
622: learn: 0.3243003 total: 907ms remaining: 549ms
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645: learn: 0.3212921 total: 942ms remaining: 516ms
646: learn: 0.3211563 total: 944ms remaining: 515ms
647: learn: 0.3210560 total: 945ms remaining: 514ms
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649: learn: 0.3208161 total: 950ms remaining: 511ms
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653: learn: 0.3205101 total: 956ms remaining: 506ms
654: learn: 0.3204367 total: 957ms remaining: 504ms
655: learn: 0.3202849 total: 960ms remaining: 503ms
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657: learn: 0.3200519 total: 964ms remaining: 501ms
658: learn: 0.3198267 total: 966ms remaining: 500ms
659: learn: 0.3196625 total: 968ms remaining: 499ms
660: learn: 0.3195126 total: 970ms remaining: 497ms
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662: learn: 0.3194609 total: 973ms remaining: 495ms
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668: learn: 0.3187012 total: 985ms remaining: 487ms
669: learn: 0.3186799 total: 986ms remaining: 485ms
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673: learn: 0.3181328 total: 992ms remaining: 480ms
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676: learn: 0.3176751 total: 997ms remaining: 476ms
677: learn: 0.3176131 total: 999ms remaining: 474ms
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679: learn: 0.3173975 total: 1s remaining: 472ms
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683: learn: 0.3167804 total: 1.01s remaining: 466ms
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685: learn: 0.3164803 total: 1.01s remaining: 463ms
686: learn: 0.3163416 total: 1.01s remaining: 462ms
687: learn: 0.3161978 total: 1.01s remaining: 460ms
688: learn: 0.3161769 total: 1.02s remaining: 459ms
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691: learn: 0.3158178 total: 1.02s remaining: 455ms
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694: learn: 0.3154102 total: 1.03s remaining: 451ms
695: learn: 0.3152654 total: 1.03s remaining: 450ms
696: learn: 0.3151902 total: 1.03s remaining: 448ms
697: learn: 0.3150708 total: 1.03s remaining: 447ms
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700: learn: 0.3148769 total: 1.04s remaining: 443ms
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723: learn: 0.3124160 total: 1.07s remaining: 410ms
724: learn: 0.3123528 total: 1.07s remaining: 408ms
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727: learn: 0.3121281 total: 1.08s remaining: 403ms
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729: learn: 0.3119227 total: 1.08s remaining: 400ms
730: learn: 0.3118013 total: 1.08s remaining: 399ms
731: learn: 0.3117127 total: 1.08s remaining: 397ms
732: learn: 0.3117050 total: 1.08s remaining: 396ms
```

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733: learn: 0.3115990 total: 1.09s remaining: 394ms
734: learn: 0.3114708 total: 1.09s remaining: 393ms
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736: learn: 0.3113248 total: 1.09s remaining: 390ms
737: learn: 0.3112741 total: 1.09s remaining: 389ms
738: learn: 0.3111885 total: 1.1s remaining: 387ms
739: learn: 0.3111415 total: 1.1s remaining: 386ms
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741: learn: 0.3108582 total: 1.1s remaining: 383ms
742: learn: 0.3108109 total: 1.1s remaining: 382ms
743: learn: 0.3106988 total: 1.1s remaining: 380ms
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745: learn: 0.3104275 total: 1.11s remaining: 377ms
746: learn: 0.3103729 total: 1.11s remaining: 376ms
747: learn: 0.3102337 total: 1.11s remaining: 374ms
748: learn: 0.3101014 total: 1.11s remaining: 373ms
749: learn: 0.3100365 total: 1.11s remaining: 372ms
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762: learn: 0.3088235 total: 1.13s remaining: 353ms
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764: learn: 0.3084945 total: 1.14s remaining: 350ms
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767: learn: 0.3081999 total: 1.14s remaining: 345ms
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769: learn: 0.3080194 total: 1.15s remaining: 342ms
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799: learn: 0.3049167 total: 1.19s remaining: 298ms
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802: learn: 0.3046852 total: 1.2s remaining: 294ms
803: learn: 0.3045582 total: 1.2s remaining: 293ms
804: learn: 0.3044222 total: 1.2s remaining: 291ms
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804: learn: 0.3044255 total: 1.2s remaining: 291ms
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874: learn: 0.2972958 total: 1.31s remaining: 188ms
875: learn: 0.2972507 total: 1.32s remaining: 186ms
876: learn: 0.2971606 total: 1.32s remaining: 185ms

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876: learn: 0.2971090 total: 1.32s remaining: 180ms
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879: learn: 0.2969224 total: 1.32s remaining: 180ms
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909: learn: 0.2938884 total: 1.37s remaining: 135ms
910: learn: 0.2937949 total: 1.37s remaining: 134ms
911: learn: 0.2937348 total: 1.37s remaining: 132ms
912: learn: 0.2936311 total: 1.37s remaining: 131ms
913: learn: 0.2935796 total: 1.37s remaining: 129ms
914: learn: 0.2935287 total: 1.37s remaining: 128ms
915: learn: 0.2934737 total: 1.38s remaining: 126ms
916: learn: 0.2934425 total: 1.38s remaining: 125ms
917: learn: 0.2933117 total: 1.38s remaining: 123ms
918: learn: 0.2932508 total: 1.38s remaining: 122ms
919: learn: 0.2931451 total: 1.38s remaining: 120ms
920: learn: 0.2929175 total: 1.38s remaining: 119ms
921: learn: 0.2928891 total: 1.38s remaining: 117ms
922: learn: 0.2928297 total: 1.39s remaining: 116ms
923: learn: 0.2927526 total: 1.39s remaining: 114ms
924: learn: 0.2926362 total: 1.39s remaining: 113ms
925: learn: 0.2925069 total: 1.39s remaining: 111ms
926: learn: 0.2924543 total: 1.4s remaining: 110ms
927: learn: 0.2923215 total: 1.4s remaining: 109ms
928: learn: 0.2922484 total: 1.4s remaining: 107ms
929: learn: 0.2922325 total: 1.4s remaining: 105ms
930: learn: 0.2920946 total: 1.4s remaining: 104ms
931: learn: 0.2920391 total: 1.4s remaining: 102ms
932: learn: 0.2919830 total: 1.41s remaining: 101ms
933: learn: 0.2918362 total: 1.41s remaining: 99.5ms
934: learn: 0.2916514 total: 1.41s remaining: 97.9ms
935: learn: 0.2914741 total: 1.41s remaining: 96.4ms
936: learn: 0.2913659 total: 1.41s remaining: 95ms
937: learn: 0.2913421 total: 1.41s remaining: 93.5ms
938: learn: 0.2912195 total: 1.42s remaining: 92ms
939: learn: 0.2910886 total: 1.42s remaining: 90.4ms
940: learn: 0.2910256 total: 1.42s remaining: 88.9ms
941: learn: 0.2909522 total: 1.42s remaining: 87.3ms
942: learn: 0.2909484 total: 1.42s remaining: 85.8ms
943: learn: 0.2907093 total: 1.42s remaining: 84.2ms
944: learn: 0.2905844 total: 1.42s remaining: 82.7ms
945: learn: 0.2904932 total: 1.42s remaining: 81.2ms
946: learn: 0.2904213 total: 1.42s remaining: 79.7ms
947: learn: 0.2902951 total: 1.42s remaining: 78.1ms
948: learn: 0.2902111 total: 1.42s remaining: 76.6ms
```

```
948: learn: 0.28902114 total: 1.43s remaining: 10.0ms
949: learn: 0.2899917 total: 1.43s remaining: 75.1ms
950: learn: 0.2899300 total: 1.43s remaining: 73.6ms
951: learn: 0.2897598 total: 1.43s remaining: 72.1ms
952: learn: 0.2897300 total: 1.43s remaining: 70.6ms
953: learn: 0.2895930 total: 1.43s remaining: 69.1ms
954: learn: 0.2894834 total: 1.43s remaining: 67.6ms
955: learn: 0.2893749 total: 1.43s remaining: 66ms
956: learn: 0.2893005 total: 1.44s remaining: 64.5ms
957: learn: 0.2891860 total: 1.44s remaining: 63ms
958: learn: 0.2890698 total: 1.44s remaining: 61.5ms
959: learn: 0.2889885 total: 1.44s remaining: 60ms
960: learn: 0.2889449 total: 1.44s remaining: 58.5ms
961: learn: 0.2888781 total: 1.44s remaining: 57ms
962: learn: 0.2887160 total: 1.45s remaining: 55.5ms
963: learn: 0.2886128 total: 1.45s remaining: 54ms
964: learn: 0.2885095 total: 1.45s remaining: 52.5ms
965: learn: 0.2884465 total: 1.45s remaining: 51ms
966: learn: 0.2884018 total: 1.45s remaining: 49.5ms
967: learn: 0.2883151 total: 1.45s remaining: 48ms
968: learn: 0.2882751 total: 1.45s remaining: 46.5ms
969: learn: 0.2882401 total: 1.45s remaining: 45ms
970: learn: 0.2880500 total: 1.46s remaining: 43.5ms
971: learn: 0.2879985 total: 1.46s remaining: 42ms
972: learn: 0.2879284 total: 1.46s remaining: 40.5ms
973: learn: 0.2878474 total: 1.46s remaining: 39ms
974: learn: 0.2877816 total: 1.46s remaining: 37.5ms
975: learn: 0.2877059 total: 1.46s remaining: 36ms
976: learn: 0.2876760 total: 1.46s remaining: 34.5ms
977: learn: 0.2876002 total: 1.47s remaining: 33ms
978: learn: 0.2874926 total: 1.47s remaining: 31.5ms
979: learn: 0.2874273 total: 1.47s remaining: 30ms
980: learn: 0.2873523 total: 1.47s remaining: 28.5ms
981: learn: 0.2872262 total: 1.47s remaining: 27ms
982: learn: 0.2872093 total: 1.47s remaining: 25.5ms
983: learn: 0.2869866 total: 1.48s remaining: 24ms
984: learn: 0.2868114 total: 1.48s remaining: 22.5ms
985: learn: 0.2867605 total: 1.48s remaining: 21ms
986: learn: 0.2865794 total: 1.48s remaining: 19.5ms
987: learn: 0.2865362 total: 1.48s remaining: 18ms
988: learn: 0.2864124 total: 1.48s remaining: 16.5ms
989: learn: 0.2863599 total: 1.48s remaining: 15ms
990: learn: 0.2862981 total: 1.49s remaining: 13.5ms
991: learn: 0.2862592 total: 1.49s remaining: 12ms
992: learn: 0.2860490 total: 1.49s remaining: 10.5ms
993: learn: 0.2858808 total: 1.49s remaining: 9ms
994: learn: 0.2856984 total: 1.49s remaining: 7.5ms
995: learn: 0.2855439 total: 1.49s remaining: 6ms
996: learn: 0.2854598 total: 1.5s remaining: 4.5ms
997: learn: 0.2853169 total: 1.5s remaining: 3ms
998: learn: 0.2851496 total: 1.5s remaining: 1.5ms
999: learn: 0.2850584 total: 1.5s remaining: 0us
```

Learning rate set to 0.009376

```
0: learn: 0.6867228 total: 1.5ms remaining: 1.5s
1: learn: 0.6832765 total: 2.39ms remaining: 1.19s
2: learn: 0.6783173 total: 3.39ms remaining: 1.13s
3: learn: 0.6737638 total: 4.38ms remaining: 1.09s
4: learn: 0.6687924 total: 6.66ms remaining: 1.32s
5: learn: 0.6632521 total: 8.45ms remaining: 1.4s
6: learn: 0.6575288 total: 9.8ms remaining: 1.39s
7: learn: 0.6515982 total: 12ms remaining: 1.49s
8: learn: 0.6467883 total: 13.7ms remaining: 1.51s
9: learn: 0.6414694 total: 15.3ms remaining: 1.51s
10: learn: 0.6360234 total: 17.2ms remaining: 1.54s
11: learn: 0.6307969 total: 18.6ms remaining: 1.53s
12: learn: 0.6260650 total: 20.7ms remaining: 1.57s
13: learn: 0.6217357 total: 22ms remaining: 1.55s
14: learn: 0.6174747 total: 23.6ms remaining: 1.55s
15: learn: 0.6133424 total: 25ms remaining: 1.54s
16: learn: 0.6089263 total: 27ms remaining: 1.56s
17: learn: 0.6052535 total: 28.8ms remaining: 1.57s
18: learn: 0.6015505 total: 30.1ms remaining: 1.55s
19: learn: 0.5976100 total: 31.4ms remaining: 1.54s
```

```
19: learn: 0.5976408 total: 31.4ms remaining: 1.54s
20: learn: 0.5930024 total: 32.7ms remaining: 1.52s
21: learn: 0.5888466 total: 34ms remaining: 1.51s
22: learn: 0.5848182 total: 35.6ms remaining: 1.51s
23: learn: 0.5808345 total: 37.6ms remaining: 1.53s
24: learn: 0.5778236 total: 39.3ms remaining: 1.53s
25: learn: 0.5745259 total: 40.5ms remaining: 1.52s
26: learn: 0.5713754 total: 42.2ms remaining: 1.52s
27: learn: 0.5695223 total: 43ms remaining: 1.49s
28: learn: 0.5659652 total: 44.4ms remaining: 1.49s
29: learn: 0.5624129 total: 46.6ms remaining: 1.51s
30: learn: 0.5590910 total: 48.2ms remaining: 1.51s
31: learn: 0.5558862 total: 49.6ms remaining: 1.5s
32: learn: 0.5532856 total: 50.7ms remaining: 1.49s
33: learn: 0.5506818 total: 51.6ms remaining: 1.47s
34: learn: 0.5478309 total: 53ms remaining: 1.46s
35: learn: 0.5444049 total: 54.4ms remaining: 1.46s
36: learn: 0.5427476 total: 55.6ms remaining: 1.45s
37: learn: 0.5398817 total: 57ms remaining: 1.44s
38: learn: 0.5367079 total: 58.4ms remaining: 1.44s
39: learn: 0.5340959 total: 59.7ms remaining: 1.43s
40: learn: 0.5309998 total: 61.1ms remaining: 1.43s
41: learn: 0.5285470 total: 62.3ms remaining: 1.42s
42: learn: 0.5256885 total: 63.9ms remaining: 1.42s
43: learn: 0.5230867 total: 65.5ms remaining: 1.42s
44: learn: 0.5200491 total: 67.5ms remaining: 1.43s
45: learn: 0.5171651 total: 68.9ms remaining: 1.43s
46: learn: 0.5147910 total: 70.4ms remaining: 1.43s
47: learn: 0.5126697 total: 71.5ms remaining: 1.42s
48: learn: 0.5103598 total: 72.7ms remaining: 1.41s
49: learn: 0.5082072 total: 73.9ms remaining: 1.4s
50: learn: 0.5055356 total: 75.1ms remaining: 1.4s
51: learn: 0.5041853 total: 75.8ms remaining: 1.38s
52: learn: 0.5016975 total: 77.5ms remaining: 1.38s
53: learn: 0.4998534 total: 78.5ms remaining: 1.37s
54: learn: 0.4980160 total: 79.6ms remaining: 1.37s
55: learn: 0.4960924 total: 80.8ms remaining: 1.36s
56: learn: 0.4940881 total: 82.2ms remaining: 1.36s
57: learn: 0.4917561 total: 83.5ms remaining: 1.35s
58: learn: 0.4898060 total: 84.8ms remaining: 1.35s
59: learn: 0.4876478 total: 86.1ms remaining: 1.35s
60: learn: 0.4857896 total: 87.4ms remaining: 1.35s
61: learn: 0.4841938 total: 88.6ms remaining: 1.34s
62: learn: 0.4823183 total: 90ms remaining: 1.34s
63: learn: 0.4806592 total: 91.2ms remaining: 1.33s
64: learn: 0.4792165 total: 92.3ms remaining: 1.33s
65: learn: 0.4772564 total: 93.2ms remaining: 1.32s
66: learn: 0.4758458 total: 94.4ms remaining: 1.31s
67: learn: 0.4747235 total: 95.4ms remaining: 1.31s
68: learn: 0.4739002 total: 96.4ms remaining: 1.3s
69: learn: 0.4724077 total: 97.6ms remaining: 1.3s
70: learn: 0.4710322 total: 99.1ms remaining: 1.3s
71: learn: 0.4691326 total: 100ms remaining: 1.29s
72: learn: 0.4674599 total: 102ms remaining: 1.29s
73: learn: 0.4662745 total: 103ms remaining: 1.29s
74: learn: 0.4646316 total: 105ms remaining: 1.29s
75: learn: 0.4631054 total: 107ms remaining: 1.3s
76: learn: 0.4613627 total: 109ms remaining: 1.3s
77: learn: 0.4599992 total: 110ms remaining: 1.3s
78: learn: 0.4583952 total: 112ms remaining: 1.31s
79: learn: 0.4574014 total: 114ms remaining: 1.31s
80: learn: 0.4562770 total: 115ms remaining: 1.31s
81: learn: 0.4548553 total: 117ms remaining: 1.31s
82: learn: 0.4538027 total: 119ms remaining: 1.31s
83: learn: 0.4526945 total: 120ms remaining: 1.31s
84: learn: 0.4515245 total: 121ms remaining: 1.31s
85: learn: 0.4505741 total: 123ms remaining: 1.3s
86: learn: 0.4493677 total: 124ms remaining: 1.3s
87: learn: 0.4483326 total: 125ms remaining: 1.29s
88: learn: 0.4469672 total: 126ms remaining: 1.29s
89: learn: 0.4458444 total: 127ms remaining: 1.29s
90: learn: 0.4446375 total: 128ms remaining: 1.28s
91: learn: 0.4434300 total: 129ms remaining: 1.28s
```

```
91: learn: 0.445950 total: 129ms remaining: 1.28s
92: learn: 0.4425878 total: 131ms remaining: 1.28s
93: learn: 0.4414807 total: 132ms remaining: 1.28s
94: learn: 0.4403326 total: 134ms remaining: 1.27s
95: learn: 0.4393239 total: 135ms remaining: 1.27s
96: learn: 0.4384646 total: 136ms remaining: 1.27s
97: learn: 0.4377032 total: 138ms remaining: 1.27s
98: learn: 0.4368839 total: 139ms remaining: 1.27s
99: learn: 0.4358662 total: 141ms remaining: 1.27s
100: learn: 0.4348885 total: 143ms remaining: 1.27s
101: learn: 0.4342714 total: 144ms remaining: 1.27s
102: learn: 0.4337301 total: 146ms remaining: 1.27s
103: learn: 0.4328736 total: 147ms remaining: 1.27s
104: learn: 0.4318225 total: 149ms remaining: 1.27s
105: learn: 0.4308224 total: 151ms remaining: 1.27s
106: learn: 0.4300008 total: 152ms remaining: 1.27s
107: learn: 0.4291874 total: 154ms remaining: 1.27s
108: learn: 0.4281482 total: 155ms remaining: 1.27s
109: learn: 0.4272447 total: 156ms remaining: 1.26s
110: learn: 0.4263470 total: 158ms remaining: 1.26s
111: learn: 0.4254601 total: 159ms remaining: 1.26s
112: learn: 0.4247835 total: 160ms remaining: 1.26s
113: learn: 0.4240124 total: 162ms remaining: 1.25s
114: learn: 0.4230515 total: 163ms remaining: 1.26s
115: learn: 0.4222429 total: 165ms remaining: 1.25s
116: learn: 0.4216542 total: 166ms remaining: 1.25s
117: learn: 0.4210667 total: 167ms remaining: 1.25s
118: learn: 0.4205603 total: 169ms remaining: 1.25s
119: learn: 0.4200162 total: 170ms remaining: 1.25s
120: learn: 0.4194606 total: 172ms remaining: 1.25s
121: learn: 0.4187977 total: 173ms remaining: 1.25s
122: learn: 0.4180219 total: 175ms remaining: 1.24s
123: learn: 0.4173028 total: 176ms remaining: 1.24s
124: learn: 0.4166850 total: 178ms remaining: 1.25s
125: learn: 0.4160005 total: 180ms remaining: 1.25s
126: learn: 0.4154545 total: 181ms remaining: 1.25s
127: learn: 0.4149847 total: 183ms remaining: 1.25s
128: learn: 0.4146016 total: 184ms remaining: 1.24s
129: learn: 0.4138736 total: 186ms remaining: 1.24s
130: learn: 0.4130664 total: 187ms remaining: 1.24s
131: learn: 0.4127018 total: 189ms remaining: 1.24s
132: learn: 0.4119298 total: 190ms remaining: 1.24s
133: learn: 0.4113258 total: 191ms remaining: 1.24s
134: learn: 0.4108035 total: 193ms remaining: 1.24s
135: learn: 0.4103204 total: 194ms remaining: 1.23s
136: learn: 0.4097764 total: 196ms remaining: 1.24s
137: learn: 0.4095147 total: 199ms remaining: 1.24s
138: learn: 0.4091512 total: 201ms remaining: 1.24s
139: learn: 0.4086709 total: 202ms remaining: 1.24s
140: learn: 0.4082409 total: 205ms remaining: 1.25s
141: learn: 0.4076925 total: 207ms remaining: 1.25s
142: learn: 0.4073327 total: 208ms remaining: 1.25s
143: learn: 0.4067616 total: 210ms remaining: 1.25s
144: learn: 0.4060920 total: 212ms remaining: 1.25s
145: learn: 0.4055673 total: 213ms remaining: 1.25s
146: learn: 0.4049542 total: 215ms remaining: 1.25s
147: learn: 0.4045568 total: 217ms remaining: 1.25s
148: learn: 0.4041748 total: 218ms remaining: 1.25s
149: learn: 0.4037794 total: 220ms remaining: 1.25s
150: learn: 0.4032580 total: 222ms remaining: 1.25s
151: learn: 0.4026045 total: 223ms remaining: 1.25s
152: learn: 0.4024176 total: 225ms remaining: 1.25s
153: learn: 0.4018101 total: 227ms remaining: 1.24s
154: learn: 0.4016745 total: 227ms remaining: 1.24s
155: learn: 0.4010508 total: 229ms remaining: 1.24s
156: learn: 0.4005968 total: 231ms remaining: 1.24s
157: learn: 0.4002601 total: 233ms remaining: 1.24s
158: learn: 0.3998087 total: 234ms remaining: 1.24s
159: learn: 0.3995030 total: 236ms remaining: 1.24s
160: learn: 0.3990176 total: 237ms remaining: 1.23s
161: learn: 0.3986733 total: 238ms remaining: 1.23s
162: learn: 0.3985094 total: 239ms remaining: 1.23s
163: learn: 0.3981611 total: 240ms remaining: 1.22s
```

```
105: learn: 0.3981041 total: 240ms remaining: 1.22s
164: learn: 0.3979441 total: 241ms remaining: 1.22s
165: learn: 0.3977208 total: 244ms remaining: 1.22s
166: learn: 0.3974086 total: 246ms remaining: 1.23s
167: learn: 0.3971029 total: 248ms remaining: 1.23s
168: learn: 0.3968692 total: 249ms remaining: 1.23s
169: learn: 0.3965079 total: 251ms remaining: 1.22s
170: learn: 0.3962005 total: 253ms remaining: 1.23s
171: learn: 0.3957390 total: 254ms remaining: 1.22s
172: learn: 0.3952936 total: 256ms remaining: 1.22s
173: learn: 0.3949103 total: 257ms remaining: 1.22s
174: learn: 0.3944509 total: 258ms remaining: 1.22s
175: learn: 0.3941401 total: 260ms remaining: 1.22s
176: learn: 0.3939093 total: 261ms remaining: 1.21s
177: learn: 0.3935417 total: 262ms remaining: 1.21s
178: learn: 0.3931064 total: 264ms remaining: 1.21s
179: learn: 0.3927642 total: 265ms remaining: 1.21s
180: learn: 0.3926372 total: 266ms remaining: 1.2s
181: learn: 0.3921673 total: 267ms remaining: 1.2s
182: learn: 0.3919263 total: 268ms remaining: 1.2s
183: learn: 0.3917795 total: 270ms remaining: 1.2s
184: learn: 0.3910897 total: 271ms remaining: 1.2s
185: learn: 0.3909125 total: 273ms remaining: 1.2s
186: learn: 0.3905845 total: 275ms remaining: 1.19s
187: learn: 0.3901354 total: 276ms remaining: 1.19s
188: learn: 0.3899308 total: 278ms remaining: 1.19s
189: learn: 0.3896043 total: 279ms remaining: 1.19s
190: learn: 0.3892538 total: 281ms remaining: 1.19s
191: learn: 0.3889380 total: 283ms remaining: 1.19s
192: learn: 0.3885610 total: 284ms remaining: 1.19s
193: learn: 0.3882863 total: 286ms remaining: 1.19s
194: learn: 0.3878854 total: 287ms remaining: 1.19s
195: learn: 0.3875447 total: 288ms remaining: 1.18s
196: learn: 0.3874372 total: 289ms remaining: 1.18s
197: learn: 0.3870530 total: 291ms remaining: 1.18s
198: learn: 0.3868049 total: 293ms remaining: 1.18s
199: learn: 0.3865737 total: 294ms remaining: 1.18s
200: learn: 0.3863799 total: 296ms remaining: 1.18s
201: learn: 0.3858451 total: 298ms remaining: 1.18s
202: learn: 0.3856617 total: 301ms remaining: 1.18s
203: learn: 0.3854151 total: 302ms remaining: 1.18s
204: learn: 0.3852737 total: 304ms remaining: 1.18s
205: learn: 0.3850484 total: 306ms remaining: 1.18s
206: learn: 0.3848737 total: 308ms remaining: 1.18s
207: learn: 0.3846017 total: 309ms remaining: 1.18s
208: learn: 0.3843079 total: 311ms remaining: 1.18s
209: learn: 0.3840249 total: 312ms remaining: 1.17s
210: learn: 0.3835814 total: 314ms remaining: 1.17s
211: learn: 0.3834562 total: 315ms remaining: 1.17s
212: learn: 0.3832849 total: 317ms remaining: 1.17s
213: learn: 0.3829558 total: 319ms remaining: 1.17s
214: learn: 0.3825862 total: 320ms remaining: 1.17s
215: learn: 0.3822827 total: 322ms remaining: 1.17s
216: learn: 0.3819357 total: 323ms remaining: 1.16s
217: learn: 0.3817114 total: 325ms remaining: 1.16s
218: learn: 0.3813598 total: 326ms remaining: 1.16s
219: learn: 0.3811191 total: 328ms remaining: 1.16s
220: learn: 0.3810240 total: 329ms remaining: 1.16s
221: learn: 0.3807463 total: 331ms remaining: 1.16s
222: learn: 0.3805460 total: 332ms remaining: 1.16s
223: learn: 0.3802177 total: 334ms remaining: 1.16s
224: learn: 0.3800666 total: 335ms remaining: 1.15s
225: learn: 0.3798269 total: 336ms remaining: 1.15s
226: learn: 0.3793985 total: 338ms remaining: 1.15s
227: learn: 0.3790721 total: 339ms remaining: 1.15s
228: learn: 0.3786904 total: 340ms remaining: 1.15s
229: learn: 0.3784898 total: 342ms remaining: 1.15s
230: learn: 0.3783903 total: 344ms remaining: 1.14s
231: learn: 0.3780328 total: 345ms remaining: 1.14s
232: learn: 0.3778548 total: 346ms remaining: 1.14s
233: learn: 0.3775097 total: 347ms remaining: 1.14s
234: learn: 0.3773275 total: 349ms remaining: 1.14s
235: ----- 0.3770105 +----- 250ms ----- 1.14s
```

```
255: learn: 0.37110105 total: 550ms remaining: 1.10s
236: learn: 0.3767716 total: 351ms remaining: 1.13s
237: learn: 0.3767114 total: 352ms remaining: 1.13s
238: learn: 0.3764615 total: 354ms remaining: 1.13s
239: learn: 0.3762802 total: 355ms remaining: 1.12s
240: learn: 0.3760081 total: 357ms remaining: 1.12s
241: learn: 0.3756641 total: 358ms remaining: 1.12s
242: learn: 0.3754938 total: 360ms remaining: 1.12s
243: learn: 0.3752206 total: 361ms remaining: 1.12s
244: learn: 0.3750089 total: 363ms remaining: 1.12s
245: learn: 0.3747303 total: 364ms remaining: 1.11s
246: learn: 0.3744595 total: 366ms remaining: 1.11s
247: learn: 0.3742590 total: 367ms remaining: 1.11s
248: learn: 0.3739645 total: 369ms remaining: 1.11s
249: learn: 0.3738469 total: 370ms remaining: 1.11s
250: learn: 0.3735435 total: 372ms remaining: 1.11s
251: learn: 0.3734369 total: 374ms remaining: 1.11s
252: learn: 0.3733170 total: 375ms remaining: 1.11s
253: learn: 0.3732054 total: 377ms remaining: 1.11s
254: learn: 0.3730261 total: 378ms remaining: 1.1s
255: learn: 0.3727287 total: 380ms remaining: 1.1s
256: learn: 0.3726284 total: 381ms remaining: 1.1s
257: learn: 0.3723686 total: 382ms remaining: 1.1s
258: learn: 0.3718880 total: 384ms remaining: 1.1s
259: learn: 0.3717001 total: 387ms remaining: 1.1s
260: learn: 0.3714900 total: 389ms remaining: 1.1s
261: learn: 0.3714231 total: 392ms remaining: 1.1s
262: learn: 0.3712471 total: 394ms remaining: 1.1s
263: learn: 0.3707569 total: 398ms remaining: 1.11s
264: learn: 0.3704522 total: 400ms remaining: 1.11s
265: learn: 0.3703470 total: 401ms remaining: 1.11s
266: learn: 0.3701631 total: 402ms remaining: 1.1s
267: learn: 0.3699508 total: 403ms remaining: 1.1s
268: learn: 0.3695868 total: 405ms remaining: 1.1s
269: learn: 0.3694010 total: 406ms remaining: 1.1s
270: learn: 0.3692719 total: 408ms remaining: 1.1s
271: learn: 0.3690948 total: 410ms remaining: 1.1s
272: learn: 0.3690314 total: 412ms remaining: 1.09s
273: learn: 0.3687061 total: 413ms remaining: 1.09s
274: learn: 0.3686732 total: 414ms remaining: 1.09s
275: learn: 0.3685631 total: 416ms remaining: 1.09s
276: learn: 0.3683384 total: 417ms remaining: 1.09s
277: learn: 0.3680407 total: 419ms remaining: 1.09s
278: learn: 0.3678471 total: 421ms remaining: 1.09s
279: learn: 0.3676178 total: 422ms remaining: 1.08s
280: learn: 0.3674435 total: 424ms remaining: 1.08s
281: learn: 0.3672920 total: 426ms remaining: 1.08s
282: learn: 0.3671225 total: 427ms remaining: 1.08s
283: learn: 0.3669922 total: 429ms remaining: 1.08s
284: learn: 0.3667081 total: 431ms remaining: 1.08s
285: learn: 0.3666265 total: 433ms remaining: 1.08s
286: learn: 0.3663534 total: 434ms remaining: 1.08s
287: learn: 0.3660859 total: 436ms remaining: 1.08s
288: learn: 0.3659621 total: 437ms remaining: 1.07s
289: learn: 0.3657920 total: 439ms remaining: 1.07s
290: learn: 0.3656281 total: 440ms remaining: 1.07s
291: learn: 0.3653163 total: 442ms remaining: 1.07s
292: learn: 0.3651564 total: 444ms remaining: 1.07s
293: learn: 0.3649589 total: 446ms remaining: 1.07s
294: learn: 0.3648226 total: 448ms remaining: 1.07s
295: learn: 0.3645902 total: 450ms remaining: 1.07s
296: learn: 0.3644579 total: 451ms remaining: 1.07s
297: learn: 0.3643714 total: 453ms remaining: 1.07s
298: learn: 0.3641305 total: 455ms remaining: 1.06s
299: learn: 0.3640445 total: 456ms remaining: 1.06s
300: learn: 0.3639637 total: 458ms remaining: 1.06s
301: learn: 0.3637943 total: 460ms remaining: 1.06s
302: learn: 0.3637326 total: 462ms remaining: 1.06s
303: learn: 0.3635835 total: 464ms remaining: 1.06s
304: learn: 0.3634551 total: 468ms remaining: 1.06s
305: learn: 0.3632386 total: 470ms remaining: 1.07s
306: learn: 0.3631626 total: 473ms remaining: 1.07s
307: ----- 0.3630257 +----- 1.07s
```

```
501: learn: 0.3629551 total: 475ms remaining: 1.07s
308: learn: 0.3628866 total: 478ms remaining: 1.07s
309: learn: 0.3627715 total: 480ms remaining: 1.07s
310: learn: 0.3626251 total: 482ms remaining: 1.07s
311: learn: 0.3626096 total: 484ms remaining: 1.07s
312: learn: 0.3624936 total: 485ms remaining: 1.06s
313: learn: 0.3622954 total: 487ms remaining: 1.06s
314: learn: 0.3621254 total: 489ms remaining: 1.06s
315: learn: 0.3619557 total: 490ms remaining: 1.06s
316: learn: 0.3617591 total: 492ms remaining: 1.06s
317: learn: 0.3615950 total: 494ms remaining: 1.06s
318: learn: 0.3614097 total: 495ms remaining: 1.06s
319: learn: 0.3612930 total: 496ms remaining: 1.05s
320: learn: 0.3612175 total: 498ms remaining: 1.05s
321: learn: 0.3611082 total: 499ms remaining: 1.05s
322: learn: 0.3608556 total: 501ms remaining: 1.05s
323: learn: 0.3608406 total: 501ms remaining: 1.05s
324: learn: 0.3608393 total: 503ms remaining: 1.04s
325: learn: 0.3607951 total: 504ms remaining: 1.04s
326: learn: 0.3606779 total: 506ms remaining: 1.04s
327: learn: 0.3605516 total: 508ms remaining: 1.04s
328: learn: 0.3604407 total: 509ms remaining: 1.04s
329: learn: 0.3603070 total: 511ms remaining: 1.04s
330: learn: 0.3602304 total: 514ms remaining: 1.04s
331: learn: 0.3600970 total: 516ms remaining: 1.04s
332: learn: 0.3600281 total: 519ms remaining: 1.04s
333: learn: 0.3598979 total: 520ms remaining: 1.04s
334: learn: 0.3598829 total: 521ms remaining: 1.03s
335: learn: 0.3596134 total: 525ms remaining: 1.04s
336: learn: 0.3594494 total: 526ms remaining: 1.03s
337: learn: 0.3593919 total: 527ms remaining: 1.03s
338: learn: 0.3592763 total: 529ms remaining: 1.03s
339: learn: 0.3591854 total: 530ms remaining: 1.03s
340: learn: 0.3590918 total: 531ms remaining: 1.03s
341: learn: 0.3589903 total: 533ms remaining: 1.02s
342: learn: 0.3589499 total: 535ms remaining: 1.02s
343: learn: 0.3587885 total: 539ms remaining: 1.03s
344: learn: 0.3586285 total: 542ms remaining: 1.03s
345: learn: 0.3585241 total: 544ms remaining: 1.03s
346: learn: 0.3583540 total: 546ms remaining: 1.03s
347: learn: 0.3582785 total: 548ms remaining: 1.03s
348: learn: 0.3579107 total: 551ms remaining: 1.03s
349: learn: 0.3578081 total: 554ms remaining: 1.03s
350: learn: 0.3576036 total: 556ms remaining: 1.03s
351: learn: 0.3575026 total: 557ms remaining: 1.03s
352: learn: 0.3573843 total: 559ms remaining: 1.02s
353: learn: 0.3573238 total: 560ms remaining: 1.02s
354: learn: 0.3571915 total: 562ms remaining: 1.02s
355: learn: 0.3570197 total: 563ms remaining: 1.02s
356: learn: 0.3569700 total: 565ms remaining: 1.02s
357: learn: 0.3569598 total: 566ms remaining: 1.01s
358: learn: 0.3568449 total: 567ms remaining: 1.01s
359: learn: 0.3567546 total: 569ms remaining: 1.01s
360: learn: 0.3564881 total: 570ms remaining: 1.01s
361: learn: 0.3563379 total: 571ms remaining: 1.01s
362: learn: 0.3560719 total: 573ms remaining: 1s
363: learn: 0.3559951 total: 574ms remaining: 1s
364: learn: 0.3559124 total: 577ms remaining: 1s
365: learn: 0.3557834 total: 579ms remaining: 1s
366: learn: 0.3555739 total: 581ms remaining: 1s
367: learn: 0.3554660 total: 583ms remaining: 1s
368: learn: 0.3552914 total: 585ms remaining: 1s
369: learn: 0.3551602 total: 587ms remaining: 999ms
370: learn: 0.3551124 total: 588ms remaining: 998ms
371: learn: 0.3550373 total: 590ms remaining: 996ms
372: learn: 0.3549340 total: 592ms remaining: 995ms
373: learn: 0.3548575 total: 593ms remaining: 993ms
374: learn: 0.3547309 total: 595ms remaining: 992ms
375: learn: 0.3543818 total: 597ms remaining: 991ms
376: learn: 0.3542330 total: 599ms remaining: 990ms
377: learn: 0.3539839 total: 601ms remaining: 989ms
378: learn: 0.3538221 total: 603ms remaining: 988ms
379: learn: 0.3537005 total: 605ms remaining: 987ms
```

519: learn: 0.3551295 total: 605ms remaining: 981ms
380: learn: 0.3536052 total: 607ms remaining: 986ms
381: learn: 0.3534322 total: 609ms remaining: 986ms
382: learn: 0.3532317 total: 611ms remaining: 985ms
383: learn: 0.3530407 total: 613ms remaining: 983ms
384: learn: 0.3530220 total: 614ms remaining: 981ms
385: learn: 0.3527908 total: 616ms remaining: 980ms
386: learn: 0.3526332 total: 617ms remaining: 978ms
387: learn: 0.3525300 total: 619ms remaining: 976ms
388: learn: 0.3524244 total: 621ms remaining: 975ms
389: learn: 0.3523354 total: 622ms remaining: 973ms
390: learn: 0.3522085 total: 624ms remaining: 972ms
391: learn: 0.3521328 total: 625ms remaining: 970ms
392: learn: 0.3520635 total: 627ms remaining: 968ms
393: learn: 0.3519223 total: 628ms remaining: 966ms
394: learn: 0.3518815 total: 629ms remaining: 963ms
395: learn: 0.3516992 total: 630ms remaining: 961ms
396: learn: 0.3514507 total: 631ms remaining: 959ms
397: learn: 0.3512843 total: 633ms remaining: 957ms
398: learn: 0.3511843 total: 634ms remaining: 955ms
399: learn: 0.3510754 total: 635ms remaining: 953ms
400: learn: 0.3509044 total: 637ms remaining: 951ms
401: learn: 0.3508436 total: 638ms remaining: 949ms
402: learn: 0.3507185 total: 639ms remaining: 947ms
403: learn: 0.3506539 total: 641ms remaining: 945ms
404: learn: 0.3505839 total: 642ms remaining: 943ms
405: learn: 0.3505279 total: 644ms remaining: 942ms
406: learn: 0.3502936 total: 645ms remaining: 940ms
407: learn: 0.3502769 total: 646ms remaining: 938ms
408: learn: 0.3501695 total: 647ms remaining: 935ms
409: learn: 0.3500479 total: 649ms remaining: 934ms
410: learn: 0.3498411 total: 650ms remaining: 932ms
411: learn: 0.3497719 total: 651ms remaining: 930ms
412: learn: 0.3497289 total: 653ms remaining: 928ms
413: learn: 0.3496738 total: 655ms remaining: 926ms
414: learn: 0.3495304 total: 656ms remaining: 925ms
415: learn: 0.3492961 total: 658ms remaining: 924ms
416: learn: 0.3492530 total: 660ms remaining: 922ms
417: learn: 0.3490196 total: 661ms remaining: 921ms
418: learn: 0.3489021 total: 663ms remaining: 919ms
419: learn: 0.3488263 total: 664ms remaining: 917ms
420: learn: 0.3486808 total: 666ms remaining: 915ms
421: learn: 0.3485845 total: 667ms remaining: 914ms
422: learn: 0.3483744 total: 668ms remaining: 912ms
423: learn: 0.3481565 total: 670ms remaining: 910ms
424: learn: 0.3480021 total: 671ms remaining: 908ms
425: learn: 0.3478757 total: 673ms remaining: 907ms
426: learn: 0.3478057 total: 674ms remaining: 905ms
427: learn: 0.3477260 total: 675ms remaining: 902ms
428: learn: 0.3475446 total: 676ms remaining: 900ms
429: learn: 0.3474742 total: 678ms remaining: 898ms
430: learn: 0.3473716 total: 679ms remaining: 897ms
431: learn: 0.3471752 total: 680ms remaining: 895ms
432: learn: 0.3469326 total: 682ms remaining: 893ms
433: learn: 0.3468537 total: 683ms remaining: 891ms
434: learn: 0.3466170 total: 685ms remaining: 890ms
435: learn: 0.3465063 total: 686ms remaining: 888ms
436: learn: 0.3463905 total: 688ms remaining: 886ms
437: learn: 0.3463188 total: 689ms remaining: 885ms
438: learn: 0.3462646 total: 691ms remaining: 883ms
439: learn: 0.3461222 total: 692ms remaining: 881ms
440: learn: 0.3460095 total: 693ms remaining: 879ms
441: learn: 0.3457534 total: 695ms remaining: 877ms
442: learn: 0.3454663 total: 696ms remaining: 875ms
443: learn: 0.3454525 total: 697ms remaining: 873ms
444: learn: 0.3453066 total: 698ms remaining: 870ms
445: learn: 0.3452507 total: 699ms remaining: 868ms
446: learn: 0.3451885 total: 700ms remaining: 866ms
447: learn: 0.3450639 total: 701ms remaining: 864ms
448: learn: 0.3447442 total: 702ms remaining: 861ms
449: learn: 0.3447253 total: 704ms remaining: 860ms
450: learn: 0.3446508 total: 706ms remaining: 859ms
451: learn: 0.3445705 total: 707ms remaining: 857ms

```
451: learn: 0.344595 total: 708ms remaining: 851ms
452: learn: 0.3443678 total: 709ms remaining: 856ms
453: learn: 0.3441637 total: 711ms remaining: 855ms
454: learn: 0.3440714 total: 712ms remaining: 853ms
455: learn: 0.3440250 total: 714ms remaining: 852ms
456: learn: 0.3439470 total: 716ms remaining: 851ms
457: learn: 0.3438717 total: 717ms remaining: 849ms
458: learn: 0.3438079 total: 719ms remaining: 848ms
459: learn: 0.3436704 total: 721ms remaining: 846ms
460: learn: 0.3434722 total: 723ms remaining: 845ms
461: learn: 0.3433707 total: 725ms remaining: 844ms
462: learn: 0.3432239 total: 727ms remaining: 843ms
463: learn: 0.3430992 total: 729ms remaining: 842ms
464: learn: 0.3430017 total: 730ms remaining: 840ms
465: learn: 0.3428040 total: 732ms remaining: 839ms
466: learn: 0.3426384 total: 734ms remaining: 837ms
467: learn: 0.3425092 total: 735ms remaining: 835ms
468: learn: 0.3424582 total: 737ms remaining: 834ms
469: learn: 0.3422500 total: 739ms remaining: 833ms
470: learn: 0.3421483 total: 740ms remaining: 832ms
471: learn: 0.3420835 total: 742ms remaining: 830ms
472: learn: 0.3418932 total: 744ms remaining: 829ms
473: learn: 0.3417646 total: 746ms remaining: 828ms
474: learn: 0.3415590 total: 747ms remaining: 826ms
475: learn: 0.3414267 total: 749ms remaining: 824ms
476: learn: 0.3412597 total: 750ms remaining: 823ms
477: learn: 0.3411288 total: 752ms remaining: 821ms
478: learn: 0.3410827 total: 753ms remaining: 819ms
479: learn: 0.3410561 total: 755ms remaining: 817ms
480: learn: 0.3409242 total: 756ms remaining: 816ms
481: learn: 0.3407953 total: 758ms remaining: 814ms
482: learn: 0.3407045 total: 759ms remaining: 813ms
483: learn: 0.3405304 total: 761ms remaining: 811ms
484: learn: 0.3403972 total: 762ms remaining: 809ms
485: learn: 0.3403422 total: 764ms remaining: 808ms
486: learn: 0.3403297 total: 765ms remaining: 806ms
487: learn: 0.3401830 total: 766ms remaining: 804ms
488: learn: 0.3400112 total: 768ms remaining: 802ms
489: learn: 0.3398803 total: 769ms remaining: 801ms
490: learn: 0.3397842 total: 771ms remaining: 799ms
491: learn: 0.3396033 total: 772ms remaining: 797ms
492: learn: 0.3395279 total: 774ms remaining: 796ms
493: learn: 0.3393857 total: 776ms remaining: 795ms
494: learn: 0.3393196 total: 778ms remaining: 793ms
495: learn: 0.3392637 total: 779ms remaining: 792ms
496: learn: 0.3390922 total: 781ms remaining: 790ms
497: learn: 0.3390207 total: 782ms remaining: 788ms
498: learn: 0.3389178 total: 784ms remaining: 787ms
499: learn: 0.3387209 total: 785ms remaining: 785ms
500: learn: 0.3387079 total: 786ms remaining: 783ms
501: learn: 0.3385398 total: 788ms remaining: 781ms
502: learn: 0.3382873 total: 789ms remaining: 780ms
503: learn: 0.3382185 total: 790ms remaining: 778ms
504: learn: 0.3381411 total: 792ms remaining: 776ms
505: learn: 0.3379474 total: 793ms remaining: 774ms
506: learn: 0.3378251 total: 795ms remaining: 773ms
507: learn: 0.3376625 total: 796ms remaining: 771ms
508: learn: 0.3375333 total: 797ms remaining: 769ms
509: learn: 0.3373404 total: 799ms remaining: 767ms
510: learn: 0.3372137 total: 800ms remaining: 765ms
511: learn: 0.3370599 total: 801ms remaining: 763ms
512: learn: 0.3369721 total: 803ms remaining: 762ms
513: learn: 0.3369040 total: 804ms remaining: 760ms
514: learn: 0.3367227 total: 805ms remaining: 758ms
515: learn: 0.3366093 total: 807ms remaining: 757ms
516: learn: 0.3364784 total: 808ms remaining: 755ms
517: learn: 0.3363928 total: 810ms remaining: 754ms
518: learn: 0.3363282 total: 812ms remaining: 752ms
519: learn: 0.3361825 total: 814ms remaining: 751ms
520: learn: 0.3361486 total: 816ms remaining: 750ms
521: learn: 0.3360574 total: 817ms remaining: 748ms
522: learn: 0.3359226 total: 818ms remaining: 746ms
523: learn: 0.3358875 total: 819ms remaining: 745ms
```

```
525: learn: 0.33508200 total: 820ms remaining: 140ms
524: learn: 0.3357216 total: 821ms remaining: 743ms
525: learn: 0.3356351 total: 822ms remaining: 741ms
526: learn: 0.3353745 total: 824ms remaining: 740ms
527: learn: 0.3353730 total: 825ms remaining: 737ms
528: learn: 0.3353051 total: 826ms remaining: 736ms
529: learn: 0.3352015 total: 828ms remaining: 734ms
530: learn: 0.3351306 total: 829ms remaining: 733ms
531: learn: 0.3350725 total: 831ms remaining: 731ms
532: learn: 0.3349319 total: 833ms remaining: 730ms
533: learn: 0.3348686 total: 834ms remaining: 728ms
534: learn: 0.3347705 total: 836ms remaining: 726ms
535: learn: 0.3346799 total: 837ms remaining: 724ms
536: learn: 0.3345786 total: 838ms remaining: 723ms
537: learn: 0.3345156 total: 840ms remaining: 721ms
538: learn: 0.3343616 total: 841ms remaining: 720ms
539: learn: 0.3343515 total: 842ms remaining: 718ms
540: learn: 0.3342852 total: 844ms remaining: 716ms
541: learn: 0.3342750 total: 845ms remaining: 714ms
542: learn: 0.3342285 total: 846ms remaining: 712ms
543: learn: 0.3341403 total: 847ms remaining: 710ms
544: learn: 0.3340724 total: 849ms remaining: 709ms
545: learn: 0.3340269 total: 850ms remaining: 707ms
546: learn: 0.3339433 total: 852ms remaining: 705ms
547: learn: 0.3338689 total: 853ms remaining: 704ms
548: learn: 0.3337021 total: 855ms remaining: 702ms
549: learn: 0.3336671 total: 856ms remaining: 701ms
550: learn: 0.3335802 total: 858ms remaining: 699ms
551: learn: 0.3335008 total: 860ms remaining: 698ms
552: learn: 0.3332913 total: 863ms remaining: 698ms
553: learn: 0.3332735 total: 865ms remaining: 696ms
554: learn: 0.3331753 total: 866ms remaining: 694ms
555: learn: 0.3330891 total: 868ms remaining: 693ms
556: learn: 0.3330004 total: 871ms remaining: 693ms
557: learn: 0.3329759 total: 873ms remaining: 691ms
558: learn: 0.3328559 total: 874ms remaining: 690ms
559: learn: 0.3326472 total: 876ms remaining: 688ms
560: learn: 0.3325380 total: 878ms remaining: 687ms
561: learn: 0.3323668 total: 879ms remaining: 685ms
562: learn: 0.3322506 total: 881ms remaining: 684ms
563: learn: 0.3321641 total: 882ms remaining: 682ms
564: learn: 0.3320698 total: 883ms remaining: 680ms
565: learn: 0.3320150 total: 885ms remaining: 678ms
566: learn: 0.3318989 total: 886ms remaining: 677ms
567: learn: 0.3318432 total: 887ms remaining: 675ms
568: learn: 0.3318216 total: 889ms remaining: 673ms
569: learn: 0.3317435 total: 890ms remaining: 671ms
570: learn: 0.3316829 total: 892ms remaining: 670ms
571: learn: 0.3315655 total: 893ms remaining: 668ms
572: learn: 0.3315217 total: 897ms remaining: 668ms
573: learn: 0.3314254 total: 902ms remaining: 670ms
574: learn: 0.3313523 total: 905ms remaining: 669ms
575: learn: 0.3313322 total: 906ms remaining: 667ms
576: learn: 0.3311888 total: 908ms remaining: 666ms
577: learn: 0.3310939 total: 910ms remaining: 664ms
578: learn: 0.3310420 total: 911ms remaining: 663ms
579: learn: 0.3309187 total: 914ms remaining: 662ms
580: learn: 0.3308290 total: 917ms remaining: 661ms
581: learn: 0.3307262 total: 920ms remaining: 661ms
582: learn: 0.3306443 total: 921ms remaining: 659ms
583: learn: 0.3305506 total: 923ms remaining: 657ms
584: learn: 0.3303540 total: 924ms remaining: 655ms
585: learn: 0.3301047 total: 925ms remaining: 653ms
586: learn: 0.3299760 total: 926ms remaining: 652ms
587: learn: 0.3298118 total: 927ms remaining: 650ms
588: learn: 0.3296297 total: 928ms remaining: 648ms
589: learn: 0.3295653 total: 929ms remaining: 646ms
590: learn: 0.3295461 total: 930ms remaining: 644ms
591: learn: 0.3293066 total: 932ms remaining: 642ms
592: learn: 0.3292831 total: 932ms remaining: 640ms
593: learn: 0.3291870 total: 937ms remaining: 640ms
594: learn: 0.3290956 total: 938ms remaining: 638ms
595: learn: 0.3290060 total: 940ms remaining: 637ms
```

```
595: learn: 0.3289809 total: 940ms remaining: 637ms
596: learn: 0.3289318 total: 941ms remaining: 635ms
597: learn: 0.3287937 total: 942ms remaining: 633ms
598: learn: 0.3287026 total: 943ms remaining: 631ms
599: learn: 0.3286825 total: 945ms remaining: 630ms
600: learn: 0.3285667 total: 946ms remaining: 628ms
601: learn: 0.3285204 total: 948ms remaining: 627ms
602: learn: 0.3284280 total: 950ms remaining: 625ms
603: learn: 0.3283051 total: 951ms remaining: 623ms
604: learn: 0.3282970 total: 952ms remaining: 621ms
605: learn: 0.3282285 total: 953ms remaining: 619ms
606: learn: 0.3280842 total: 954ms remaining: 618ms
607: learn: 0.3280350 total: 955ms remaining: 616ms
608: learn: 0.3279269 total: 956ms remaining: 614ms
609: learn: 0.3278331 total: 958ms remaining: 612ms
610: learn: 0.3277097 total: 959ms remaining: 611ms
611: learn: 0.3276316 total: 960ms remaining: 609ms
612: learn: 0.3274584 total: 962ms remaining: 607ms
613: learn: 0.3274481 total: 962ms remaining: 605ms
614: learn: 0.3273898 total: 964ms remaining: 603ms
615: learn: 0.3273092 total: 965ms remaining: 602ms
616: learn: 0.3272582 total: 966ms remaining: 600ms
617: learn: 0.3270261 total: 968ms remaining: 598ms
618: learn: 0.3268785 total: 969ms remaining: 597ms
619: learn: 0.3267668 total: 971ms remaining: 595ms
620: learn: 0.3266394 total: 972ms remaining: 593ms
621: learn: 0.3265739 total: 974ms remaining: 592ms
622: learn: 0.3264597 total: 975ms remaining: 590ms
623: learn: 0.3263734 total: 976ms remaining: 588ms
624: learn: 0.3262311 total: 978ms remaining: 587ms
625: learn: 0.3261866 total: 979ms remaining: 585ms
626: learn: 0.3260882 total: 981ms remaining: 583ms
627: learn: 0.3260012 total: 982ms remaining: 582ms
628: learn: 0.3259434 total: 983ms remaining: 580ms
629: learn: 0.3258828 total: 987ms remaining: 580ms
630: learn: 0.3256387 total: 988ms remaining: 578ms
631: learn: 0.3255879 total: 990ms remaining: 576ms
632: learn: 0.3255418 total: 991ms remaining: 575ms
633: learn: 0.3254761 total: 993ms remaining: 573ms
634: learn: 0.3253622 total: 994ms remaining: 571ms
635: learn: 0.3252393 total: 995ms remaining: 570ms
636: learn: 0.3252072 total: 997ms remaining: 568ms
637: learn: 0.3250395 total: 999ms remaining: 567ms
638: learn: 0.3248775 total: 1s remaining: 565ms
639: learn: 0.3247711 total: 1s remaining: 564ms
640: learn: 0.3246633 total: 1s remaining: 562ms
641: learn: 0.3244511 total: 1s remaining: 561ms
642: learn: 0.3242426 total: 1.01s remaining: 560ms
643: learn: 0.3241610 total: 1.01s remaining: 559ms
644: learn: 0.3240671 total: 1.01s remaining: 557ms
645: learn: 0.3239766 total: 1.01s remaining: 556ms
646: learn: 0.3239673 total: 1.02s remaining: 554ms
647: learn: 0.3238861 total: 1.02s remaining: 553ms
648: learn: 0.3237637 total: 1.02s remaining: 552ms
649: learn: 0.3236798 total: 1.02s remaining: 550ms
650: learn: 0.3236223 total: 1.02s remaining: 549ms
651: learn: 0.3234298 total: 1.02s remaining: 547ms
652: learn: 0.3234018 total: 1.03s remaining: 546ms
653: learn: 0.3231779 total: 1.03s remaining: 544ms
654: learn: 0.3229990 total: 1.03s remaining: 543ms
655: learn: 0.3228022 total: 1.03s remaining: 541ms
656: learn: 0.3227447 total: 1.03s remaining: 540ms
657: learn: 0.3226823 total: 1.03s remaining: 538ms
658: learn: 0.3225893 total: 1.04s remaining: 537ms
659: learn: 0.3224706 total: 1.04s remaining: 536ms
660: learn: 0.3223953 total: 1.04s remaining: 534ms
661: learn: 0.3223436 total: 1.04s remaining: 533ms
662: learn: 0.3222897 total: 1.04s remaining: 531ms
663: learn: 0.3221876 total: 1.05s remaining: 530ms
664: learn: 0.3221324 total: 1.05s remaining: 529ms
665: learn: 0.3220758 total: 1.05s remaining: 528ms
666: learn: 0.3220268 total: 1.05s remaining: 526ms
667: learn: 0.3219810 total: 1.05s remaining: 525ms
```

```
00: learn: 0.3210410 total: 1.00s remaining: 525ms
668: learn: 0.3217614 total: 1.06s remaining: 524ms
669: learn: 0.3216712 total: 1.06s remaining: 522ms
670: learn: 0.3215886 total: 1.06s remaining: 521ms
671: learn: 0.3215349 total: 1.06s remaining: 519ms
672: learn: 0.3213981 total: 1.06s remaining: 518ms
673: learn: 0.3212302 total: 1.07s remaining: 516ms
674: learn: 0.3211991 total: 1.07s remaining: 515ms
675: learn: 0.3211545 total: 1.07s remaining: 513ms
676: learn: 0.3211256 total: 1.07s remaining: 511ms
677: learn: 0.3209607 total: 1.07s remaining: 510ms
678: learn: 0.3208138 total: 1.07s remaining: 508ms
679: learn: 0.3207648 total: 1.08s remaining: 507ms
680: learn: 0.3205171 total: 1.08s remaining: 506ms
681: learn: 0.3203855 total: 1.08s remaining: 504ms
682: learn: 0.3202281 total: 1.08s remaining: 503ms
683: learn: 0.3200922 total: 1.08s remaining: 501ms
684: learn: 0.3199731 total: 1.09s remaining: 500ms
685: learn: 0.3198476 total: 1.09s remaining: 498ms
686: learn: 0.3195365 total: 1.09s remaining: 497ms
687: learn: 0.3193924 total: 1.09s remaining: 496ms
688: learn: 0.3192094 total: 1.1s remaining: 495ms
689: learn: 0.3191704 total: 1.1s remaining: 493ms
690: learn: 0.3190175 total: 1.1s remaining: 492ms
691: learn: 0.3189595 total: 1.1s remaining: 490ms
692: learn: 0.3188937 total: 1.1s remaining: 489ms
693: learn: 0.3187105 total: 1.1s remaining: 488ms
694: learn: 0.3185563 total: 1.11s remaining: 486ms
695: learn: 0.3183962 total: 1.11s remaining: 484ms
696: learn: 0.3182134 total: 1.11s remaining: 483ms
697: learn: 0.3181695 total: 1.11s remaining: 481ms
698: learn: 0.3181085 total: 1.11s remaining: 480ms
699: learn: 0.3179431 total: 1.11s remaining: 478ms
700: learn: 0.3179120 total: 1.12s remaining: 476ms
701: learn: 0.3177220 total: 1.12s remaining: 475ms
702: learn: 0.3175805 total: 1.12s remaining: 473ms
703: learn: 0.3175026 total: 1.12s remaining: 472ms
704: learn: 0.3174761 total: 1.12s remaining: 470ms
705: learn: 0.3173091 total: 1.13s remaining: 469ms
706: learn: 0.3172529 total: 1.13s remaining: 468ms
707: learn: 0.3171878 total: 1.13s remaining: 466ms
708: learn: 0.3171128 total: 1.13s remaining: 464ms
709: learn: 0.3168396 total: 1.13s remaining: 463ms
710: learn: 0.3166819 total: 1.13s remaining: 461ms
711: learn: 0.3166760 total: 1.14s remaining: 459ms
712: learn: 0.3166278 total: 1.14s remaining: 458ms
713: learn: 0.3165358 total: 1.14s remaining: 456ms
714: learn: 0.3163625 total: 1.14s remaining: 455ms
715: learn: 0.3161831 total: 1.14s remaining: 453ms
716: learn: 0.3160232 total: 1.14s remaining: 452ms
717: learn: 0.3159837 total: 1.15s remaining: 450ms
718: learn: 0.3157556 total: 1.15s remaining: 449ms
719: learn: 0.3156246 total: 1.15s remaining: 447ms
720: learn: 0.3154654 total: 1.15s remaining: 445ms
721: learn: 0.3153925 total: 1.15s remaining: 444ms
722: learn: 0.3153278 total: 1.15s remaining: 442ms
723: learn: 0.3151990 total: 1.16s remaining: 441ms
724: learn: 0.3151607 total: 1.16s remaining: 439ms
725: learn: 0.3150520 total: 1.16s remaining: 437ms
726: learn: 0.3149899 total: 1.16s remaining: 436ms
727: learn: 0.3148606 total: 1.16s remaining: 434ms
728: learn: 0.3147673 total: 1.16s remaining: 433ms
729: learn: 0.3147506 total: 1.16s remaining: 431ms
730: learn: 0.3144711 total: 1.17s remaining: 430ms
731: learn: 0.3143650 total: 1.17s remaining: 428ms
732: learn: 0.3142739 total: 1.17s remaining: 426ms
733: learn: 0.3140660 total: 1.17s remaining: 425ms
734: learn: 0.3139160 total: 1.17s remaining: 423ms
735: learn: 0.3138425 total: 1.17s remaining: 421ms
736: learn: 0.3137371 total: 1.18s remaining: 420ms
737: learn: 0.3136667 total: 1.18s remaining: 418ms
738: learn: 0.3135924 total: 1.18s remaining: 417ms
739: learn: 0.3135175 total: 1.18s remaining: 415ms
```

```
159: learn: 0.3135125 total: 1.18s remaining: 415ms
740: learn: 0.3134816 total: 1.18s remaining: 414ms
741: learn: 0.3133691 total: 1.18s remaining: 412ms
742: learn: 0.3132694 total: 1.19s remaining: 410ms
743: learn: 0.3132640 total: 1.19s remaining: 409ms
744: learn: 0.3132507 total: 1.19s remaining: 407ms
745: learn: 0.3131977 total: 1.19s remaining: 405ms
746: learn: 0.3130949 total: 1.19s remaining: 404ms
747: learn: 0.3130094 total: 1.19s remaining: 402ms
748: learn: 0.3128654 total: 1.2s remaining: 401ms
749: learn: 0.3128031 total: 1.2s remaining: 400ms
750: learn: 0.3127149 total: 1.2s remaining: 398ms
751: learn: 0.3126378 total: 1.2s remaining: 397ms
752: learn: 0.3124842 total: 1.2s remaining: 395ms
753: learn: 0.3124347 total: 1.21s remaining: 394ms
754: learn: 0.3124124 total: 1.21s remaining: 392ms
755: learn: 0.3122939 total: 1.21s remaining: 390ms
756: learn: 0.3121999 total: 1.21s remaining: 389ms
757: learn: 0.3121018 total: 1.21s remaining: 387ms
758: learn: 0.3120561 total: 1.21s remaining: 385ms
759: learn: 0.3119879 total: 1.21s remaining: 384ms
760: learn: 0.3118065 total: 1.22s remaining: 382ms
761: learn: 0.3117539 total: 1.22s remaining: 381ms
762: learn: 0.3116527 total: 1.22s remaining: 379ms
763: learn: 0.3115576 total: 1.22s remaining: 377ms
764: learn: 0.3115185 total: 1.22s remaining: 376ms
765: learn: 0.3114608 total: 1.23s remaining: 374ms
766: learn: 0.3114116 total: 1.23s remaining: 373ms
767: learn: 0.3113607 total: 1.23s remaining: 371ms
768: learn: 0.3112774 total: 1.23s remaining: 370ms
769: learn: 0.3111504 total: 1.23s remaining: 368ms
770: learn: 0.3110643 total: 1.23s remaining: 366ms
771: learn: 0.3108640 total: 1.23s remaining: 365ms
772: learn: 0.3108267 total: 1.24s remaining: 363ms
773: learn: 0.3106745 total: 1.24s remaining: 361ms
774: learn: 0.3105481 total: 1.24s remaining: 360ms
775: learn: 0.3104359 total: 1.24s remaining: 358ms
776: learn: 0.3104190 total: 1.24s remaining: 356ms
777: learn: 0.3103711 total: 1.24s remaining: 355ms
778: learn: 0.3101522 total: 1.24s remaining: 353ms
779: learn: 0.3101331 total: 1.25s remaining: 351ms
780: learn: 0.3100875 total: 1.25s remaining: 350ms
781: learn: 0.3100207 total: 1.25s remaining: 349ms
782: learn: 0.3099607 total: 1.25s remaining: 347ms
783: learn: 0.3098655 total: 1.25s remaining: 346ms
784: learn: 0.3098252 total: 1.26s remaining: 344ms
785: learn: 0.3097502 total: 1.26s remaining: 343ms
786: learn: 0.3096322 total: 1.26s remaining: 341ms
787: learn: 0.3094497 total: 1.26s remaining: 339ms
788: learn: 0.3093101 total: 1.26s remaining: 338ms
789: learn: 0.3091887 total: 1.26s remaining: 336ms
790: learn: 0.3090009 total: 1.27s remaining: 335ms
791: learn: 0.3089598 total: 1.27s remaining: 333ms
792: learn: 0.3088798 total: 1.27s remaining: 332ms
793: learn: 0.3087815 total: 1.27s remaining: 330ms
794: learn: 0.3087125 total: 1.27s remaining: 329ms
795: learn: 0.3085976 total: 1.28s remaining: 327ms
796: learn: 0.3084824 total: 1.28s remaining: 326ms
797: learn: 0.3083932 total: 1.28s remaining: 324ms
798: learn: 0.3083246 total: 1.28s remaining: 322ms
799: learn: 0.3082774 total: 1.28s remaining: 321ms
800: learn: 0.3081927 total: 1.28s remaining: 319ms
801: learn: 0.3080882 total: 1.29s remaining: 318ms
802: learn: 0.3078429 total: 1.29s remaining: 316ms
803: learn: 0.3077908 total: 1.29s remaining: 314ms
804: learn: 0.3077189 total: 1.29s remaining: 313ms
805: learn: 0.3075703 total: 1.29s remaining: 311ms
806: learn: 0.3074550 total: 1.29s remaining: 310ms
807: learn: 0.3073561 total: 1.3s remaining: 308ms
808: learn: 0.3072912 total: 1.3s remaining: 306ms
809: learn: 0.3070241 total: 1.3s remaining: 305ms
810: learn: 0.3069338 total: 1.3s remaining: 303ms
811: ----- 0.3067000 +----- 1.3s ----- 302ms
```

```
811: learn: 0.3001988 total: 1.3s remaining: 500ms
812: learn: 0.3065905 total: 1.3s remaining: 300ms
813: learn: 0.3063932 total: 1.3s remaining: 298ms
814: learn: 0.3063013 total: 1.31s remaining: 297ms
815: learn: 0.3061865 total: 1.31s remaining: 295ms
816: learn: 0.3060336 total: 1.31s remaining: 294ms
817: learn: 0.3058007 total: 1.31s remaining: 292ms
818: learn: 0.3056300 total: 1.31s remaining: 291ms
819: learn: 0.3055183 total: 1.32s remaining: 289ms
820: learn: 0.3054128 total: 1.32s remaining: 287ms
821: learn: 0.3052959 total: 1.32s remaining: 286ms
822: learn: 0.3051552 total: 1.32s remaining: 284ms
823: learn: 0.3050227 total: 1.32s remaining: 283ms
824: learn: 0.3047650 total: 1.32s remaining: 281ms
825: learn: 0.3046548 total: 1.33s remaining: 279ms
826: learn: 0.3045741 total: 1.33s remaining: 278ms
827: learn: 0.3044105 total: 1.33s remaining: 276ms
828: learn: 0.3042720 total: 1.33s remaining: 274ms
829: learn: 0.3041899 total: 1.33s remaining: 273ms
830: learn: 0.3039934 total: 1.33s remaining: 271ms
831: learn: 0.3038754 total: 1.33s remaining: 270ms
832: learn: 0.3038440 total: 1.34s remaining: 268ms
833: learn: 0.3037903 total: 1.34s remaining: 267ms
834: learn: 0.3037473 total: 1.34s remaining: 265ms
835: learn: 0.3034984 total: 1.34s remaining: 263ms
836: learn: 0.3032751 total: 1.35s remaining: 262ms
837: learn: 0.3030758 total: 1.35s remaining: 261ms
838: learn: 0.3029958 total: 1.35s remaining: 259ms
839: learn: 0.3029739 total: 1.35s remaining: 258ms
840: learn: 0.3028560 total: 1.35s remaining: 256ms
841: learn: 0.3027153 total: 1.36s remaining: 255ms
842: learn: 0.3026453 total: 1.36s remaining: 253ms
843: learn: 0.3025015 total: 1.36s remaining: 251ms
844: learn: 0.3023484 total: 1.36s remaining: 250ms
845: learn: 0.3022939 total: 1.36s remaining: 248ms
846: learn: 0.3021236 total: 1.37s remaining: 247ms
847: learn: 0.3019524 total: 1.37s remaining: 245ms
848: learn: 0.3018402 total: 1.37s remaining: 244ms
849: learn: 0.3017370 total: 1.37s remaining: 242ms
850: learn: 0.3015868 total: 1.38s remaining: 241ms
851: learn: 0.3013701 total: 1.38s remaining: 239ms
852: learn: 0.3013258 total: 1.38s remaining: 238ms
853: learn: 0.3012563 total: 1.38s remaining: 236ms
854: learn: 0.3010529 total: 1.38s remaining: 234ms
855: learn: 0.3010051 total: 1.38s remaining: 233ms
856: learn: 0.3008890 total: 1.39s remaining: 231ms
857: learn: 0.3008483 total: 1.39s remaining: 230ms
858: learn: 0.3007844 total: 1.39s remaining: 228ms
859: learn: 0.3006602 total: 1.39s remaining: 226ms
860: learn: 0.3005718 total: 1.39s remaining: 225ms
861: learn: 0.3005219 total: 1.39s remaining: 223ms
862: learn: 0.3004329 total: 1.4s remaining: 221ms
863: learn: 0.3003559 total: 1.4s remaining: 220ms
864: learn: 0.3001592 total: 1.4s remaining: 218ms
865: learn: 0.2999801 total: 1.4s remaining: 217ms
866: learn: 0.2998704 total: 1.4s remaining: 215ms
867: learn: 0.2996464 total: 1.4s remaining: 214ms
868: learn: 0.2994913 total: 1.41s remaining: 212ms
869: learn: 0.2994520 total: 1.41s remaining: 210ms
870: learn: 0.2993243 total: 1.41s remaining: 209ms
871: learn: 0.2990616 total: 1.41s remaining: 207ms
872: learn: 0.2989432 total: 1.41s remaining: 206ms
873: learn: 0.2988237 total: 1.42s remaining: 204ms
874: learn: 0.2987411 total: 1.42s remaining: 203ms
875: learn: 0.2986353 total: 1.42s remaining: 201ms
876: learn: 0.2986016 total: 1.42s remaining: 199ms
877: learn: 0.2985261 total: 1.42s remaining: 198ms
878: learn: 0.2984933 total: 1.43s remaining: 196ms
879: learn: 0.2982706 total: 1.43s remaining: 195ms
880: learn: 0.2982054 total: 1.44s remaining: 194ms
881: learn: 0.2981800 total: 1.44s remaining: 192ms
882: learn: 0.2980432 total: 1.44s remaining: 191ms
883: learn: 0.2979224 total: 1.44s remaining: 190ms
```

```
885: learn: 0.2979254 total: 1.44s remaining: 189ms
884: learn: 0.2977725 total: 1.45s remaining: 188ms
885: learn: 0.2976101 total: 1.45s remaining: 186ms
886: learn: 0.2975008 total: 1.45s remaining: 185ms
887: learn: 0.2974071 total: 1.45s remaining: 183ms
888: learn: 0.2971836 total: 1.45s remaining: 182ms
889: learn: 0.2971120 total: 1.46s remaining: 180ms
890: learn: 0.2970463 total: 1.46s remaining: 178ms
891: learn: 0.2969911 total: 1.47s remaining: 177ms
892: learn: 0.2969233 total: 1.47s remaining: 176ms
893: learn: 0.2968461 total: 1.47s remaining: 175ms
894: learn: 0.2967693 total: 1.47s remaining: 173ms
895: learn: 0.2967488 total: 1.48s remaining: 172ms
896: learn: 0.2966949 total: 1.48s remaining: 170ms
897: learn: 0.2965729 total: 1.48s remaining: 168ms
898: learn: 0.2963859 total: 1.48s remaining: 167ms
899: learn: 0.2962101 total: 1.49s remaining: 165ms
900: learn: 0.2960450 total: 1.49s remaining: 163ms
901: learn: 0.2958847 total: 1.49s remaining: 162ms
902: learn: 0.2957328 total: 1.49s remaining: 160ms
903: learn: 0.2955944 total: 1.49s remaining: 159ms
904: learn: 0.2954794 total: 1.5s remaining: 157ms
905: learn: 0.2954135 total: 1.5s remaining: 155ms
906: learn: 0.2953295 total: 1.5s remaining: 154ms
907: learn: 0.2952524 total: 1.5s remaining: 152ms
908: learn: 0.2951761 total: 1.5s remaining: 150ms
909: learn: 0.2950953 total: 1.5s remaining: 149ms
910: learn: 0.2950088 total: 1.5s remaining: 147ms
911: learn: 0.2949356 total: 1.51s remaining: 146ms
912: learn: 0.2948414 total: 1.51s remaining: 144ms
913: learn: 0.2948075 total: 1.51s remaining: 142ms
914: learn: 0.2947313 total: 1.51s remaining: 141ms
915: learn: 0.2946884 total: 1.52s remaining: 139ms
916: learn: 0.2946202 total: 1.52s remaining: 138ms
917: learn: 0.2945472 total: 1.52s remaining: 136ms
918: learn: 0.2944472 total: 1.52s remaining: 134ms
919: learn: 0.2943843 total: 1.53s remaining: 133ms
920: learn: 0.2942975 total: 1.53s remaining: 131ms
921: learn: 0.2942359 total: 1.53s remaining: 130ms
922: learn: 0.2941814 total: 1.53s remaining: 128ms
923: learn: 0.2940696 total: 1.53s remaining: 126ms
924: learn: 0.2939733 total: 1.53s remaining: 125ms
925: learn: 0.2939345 total: 1.54s remaining: 123ms
926: learn: 0.2937861 total: 1.54s remaining: 121ms
927: learn: 0.2936961 total: 1.54s remaining: 120ms
928: learn: 0.2936360 total: 1.54s remaining: 118ms
929: learn: 0.2935900 total: 1.55s remaining: 116ms
930: learn: 0.2935105 total: 1.55s remaining: 115ms
931: learn: 0.2933967 total: 1.55s remaining: 113ms
932: learn: 0.2933282 total: 1.55s remaining: 111ms
933: learn: 0.2932028 total: 1.55s remaining: 110ms
934: learn: 0.2930712 total: 1.55s remaining: 108ms
935: learn: 0.2929937 total: 1.56s remaining: 106ms
936: learn: 0.2929241 total: 1.56s remaining: 105ms
937: learn: 0.2928770 total: 1.56s remaining: 103ms
938: learn: 0.2927836 total: 1.56s remaining: 101ms
939: learn: 0.2927347 total: 1.56s remaining: 99.7ms
940: learn: 0.2926288 total: 1.56s remaining: 98ms
941: learn: 0.2924868 total: 1.56s remaining: 96.3ms
942: learn: 0.2924515 total: 1.57s remaining: 94.7ms
943: learn: 0.2923798 total: 1.57s remaining: 93.1ms
944: learn: 0.2922451 total: 1.57s remaining: 91.4ms
945: learn: 0.2921760 total: 1.57s remaining: 89.8ms
946: learn: 0.2921145 total: 1.57s remaining: 88.1ms
947: learn: 0.2920611 total: 1.57s remaining: 86.4ms
948: learn: 0.2918803 total: 1.58s remaining: 84.8ms
949: learn: 0.2917292 total: 1.58s remaining: 83.1ms
950: learn: 0.2916504 total: 1.58s remaining: 81.5ms
951: learn: 0.2915321 total: 1.58s remaining: 79.9ms
952: learn: 0.2912550 total: 1.58s remaining: 78.2ms
953: learn: 0.2911744 total: 1.59s remaining: 76.6ms
954: learn: 0.2911045 total: 1.59s remaining: 74.9ms
955: learn: 0.2909910 total: 1.59s remaining: 72.2ms
```

```
955: learn: 0.2908918 total: 1.59s remaining: 15.5ms
956: learn: 0.2907989 total: 1.59s remaining: 71.6ms
957: learn: 0.2907326 total: 1.59s remaining: 69.9ms
958: learn: 0.2906733 total: 1.6s remaining: 68.3ms
959: learn: 0.2905895 total: 1.6s remaining: 66.6ms
960: learn: 0.2904119 total: 1.6s remaining: 65ms
961: learn: 0.2903096 total: 1.6s remaining: 63.3ms
962: learn: 0.2901985 total: 1.6s remaining: 61.6ms
963: learn: 0.2901301 total: 1.61s remaining: 60ms
964: learn: 0.2900126 total: 1.61s remaining: 58.4ms
965: learn: 0.2899104 total: 1.61s remaining: 56.8ms
966: learn: 0.2898391 total: 1.61s remaining: 55.1ms
967: learn: 0.2898340 total: 1.61s remaining: 53.4ms
968: learn: 0.2897642 total: 1.62s remaining: 51.7ms
969: learn: 0.2897209 total: 1.62s remaining: 50.1ms
970: learn: 0.2896765 total: 1.62s remaining: 48.4ms
971: learn: 0.2896066 total: 1.62s remaining: 46.7ms
972: learn: 0.2895831 total: 1.62s remaining: 45.1ms
973: learn: 0.2895145 total: 1.63s remaining: 43.4ms
974: learn: 0.2893553 total: 1.63s remaining: 41.7ms
975: learn: 0.2891521 total: 1.63s remaining: 40.1ms
976: learn: 0.2890310 total: 1.63s remaining: 38.5ms
977: learn: 0.2889559 total: 1.64s remaining: 36.8ms
978: learn: 0.2889107 total: 1.64s remaining: 35.1ms
979: learn: 0.2888706 total: 1.64s remaining: 33.4ms
980: learn: 0.2887320 total: 1.64s remaining: 31.8ms
981: learn: 0.2886445 total: 1.64s remaining: 30.1ms
982: learn: 0.2885879 total: 1.64s remaining: 28.4ms
983: learn: 0.2884960 total: 1.65s remaining: 26.8ms
984: learn: 0.2884451 total: 1.65s remaining: 25.1ms
985: learn: 0.2882826 total: 1.65s remaining: 23.4ms
986: learn: 0.2881422 total: 1.65s remaining: 21.8ms
987: learn: 0.2880453 total: 1.65s remaining: 20.1ms
988: learn: 0.2879409 total: 1.66s remaining: 18.4ms
989: learn: 0.2879200 total: 1.66s remaining: 16.7ms
990: learn: 0.2878518 total: 1.66s remaining: 15.1ms
991: learn: 0.2877646 total: 1.66s remaining: 13.4ms
992: learn: 0.2877189 total: 1.66s remaining: 11.7ms
993: learn: 0.2876368 total: 1.67s remaining: 10.1ms
994: learn: 0.2875541 total: 1.67s remaining: 8.38ms
995: learn: 0.2875010 total: 1.67s remaining: 6.7ms
996: learn: 0.2873875 total: 1.67s remaining: 5.03ms
997: learn: 0.2873415 total: 1.68s remaining: 3.36ms
998: learn: 0.2872583 total: 1.68s remaining: 1.68ms
999: learn: 0.2871858 total: 1.68s remaining: 0us
```

Learning rate set to 0.009376

```
0: learn: 0.6863846 total: 1.52ms remaining: 1.52s
1: learn: 0.6828461 total: 2.39ms remaining: 1.19s
2: learn: 0.6785656 total: 3.76ms remaining: 1.25s
3: learn: 0.6738271 total: 5.13ms remaining: 1.28s
4: learn: 0.6673597 total: 6.72ms remaining: 1.34s
5: learn: 0.6615987 total: 8.07ms remaining: 1.34s
6: learn: 0.6558006 total: 10.8ms remaining: 1.53s
7: learn: 0.6499328 total: 12.3ms remaining: 1.53s
8: learn: 0.6446133 total: 14.3ms remaining: 1.57s
9: learn: 0.6394966 total: 16.3ms remaining: 1.62s
10: learn: 0.6361806 total: 17.9ms remaining: 1.61s
11: learn: 0.6316201 total: 19.5ms remaining: 1.61s
12: learn: 0.6268850 total: 20.9ms remaining: 1.59s
13: learn: 0.6221803 total: 22.2ms remaining: 1.57s
14: learn: 0.6174166 total: 24ms remaining: 1.57s
15: learn: 0.6135923 total: 25.7ms remaining: 1.58s
16: learn: 0.6087086 total: 27.1ms remaining: 1.57s
17: learn: 0.6040934 total: 29ms remaining: 1.58s
18: learn: 0.6003858 total: 30.4ms remaining: 1.57s
19: learn: 0.5960078 total: 31.8ms remaining: 1.56s
20: learn: 0.5917568 total: 33.5ms remaining: 1.56s
21: learn: 0.5895572 total: 34.6ms remaining: 1.54s
22: learn: 0.5854647 total: 36.5ms remaining: 1.55s
23: learn: 0.5813575 total: 38.7ms remaining: 1.57s
24: learn: 0.5769566 total: 40.1ms remaining: 1.56s
25: learn: 0.5740874 total: 41.7ms remaining: 1.56s
26: learn: 0.5705005 total: 43.2ms remaining: 1.56s
```

```
20: learn: 0.5099500 total: 45.5ms remaining: 1.50s
21: learn: 0.5661941 total: 44.8ms remaining: 1.55s
22: learn: 0.5639133 total: 46.6ms remaining: 1.56s
23: learn: 0.5599821 total: 48.6ms remaining: 1.57s
24: learn: 0.5565921 total: 50.5ms remaining: 1.58s
25: learn: 0.5528176 total: 53.2ms remaining: 1.61s
26: learn: 0.5494683 total: 55.6ms remaining: 1.63s
27: learn: 0.5463367 total: 58.2ms remaining: 1.65s
28: learn: 0.5426637 total: 60.4ms remaining: 1.66s
29: learn: 0.5395146 total: 62.8ms remaining: 1.68s
30: learn: 0.5363034 total: 64.8ms remaining: 1.69s
31: learn: 0.5330497 total: 67.7ms remaining: 1.71s
32: learn: 0.5303347 total: 69.8ms remaining: 1.72s
33: learn: 0.5278021 total: 70.9ms remaining: 1.7s
34: learn: 0.5254604 total: 72.3ms remaining: 1.69s
35: learn: 0.5229134 total: 73.6ms remaining: 1.68s
36: learn: 0.5204401 total: 75.3ms remaining: 1.68s
37: learn: 0.5191403 total: 76ms remaining: 1.65s
38: learn: 0.5163637 total: 77.6ms remaining: 1.65s
39: learn: 0.5136080 total: 79.4ms remaining: 1.65s
40: learn: 0.5108462 total: 81.5ms remaining: 1.65s
41: learn: 0.5096642 total: 82.6ms remaining: 1.64s
42: learn: 0.5071638 total: 84ms remaining: 1.63s
43: learn: 0.5046790 total: 86ms remaining: 1.63s
44: learn: 0.5020670 total: 88.2ms remaining: 1.64s
45: learn: 0.4994401 total: 90ms remaining: 1.64s
46: learn: 0.4970046 total: 91.4ms remaining: 1.63s
47: learn: 0.4951030 total: 94ms remaining: 1.65s
48: learn: 0.4932620 total: 95.9ms remaining: 1.65s
49: learn: 0.4911686 total: 99.6ms remaining: 1.68s
50: learn: 0.4890195 total: 101ms remaining: 1.68s
51: learn: 0.4865130 total: 104ms remaining: 1.69s
52: learn: 0.4845859 total: 105ms remaining: 1.68s
53: learn: 0.4829635 total: 107ms remaining: 1.68s
54: learn: 0.4812593 total: 110ms remaining: 1.69s
55: learn: 0.4791293 total: 113ms remaining: 1.71s
56: learn: 0.4771737 total: 115ms remaining: 1.71s
57: learn: 0.4751171 total: 118ms remaining: 1.73s
58: learn: 0.4736772 total: 120ms remaining: 1.73s
59: learn: 0.4716730 total: 123ms remaining: 1.74s
60: learn: 0.4701667 total: 125ms remaining: 1.74s
61: learn: 0.4683325 total: 128ms remaining: 1.76s
62: learn: 0.4663032 total: 132ms remaining: 1.78s
63: learn: 0.4643970 total: 135ms remaining: 1.79s
64: learn: 0.4625573 total: 139ms remaining: 1.82s
65: learn: 0.4606265 total: 141ms remaining: 1.82s
66: learn: 0.4587092 total: 145ms remaining: 1.84s
67: learn: 0.4574497 total: 146ms remaining: 1.83s
68: learn: 0.4560736 total: 149ms remaining: 1.83s
69: learn: 0.4545287 total: 151ms remaining: 1.84s
70: learn: 0.4531618 total: 153ms remaining: 1.83s
71: learn: 0.4515012 total: 155ms remaining: 1.83s
72: learn: 0.4505569 total: 157ms remaining: 1.82s
73: learn: 0.4488735 total: 161ms remaining: 1.85s
74: learn: 0.4476441 total: 164ms remaining: 1.86s
75: learn: 0.4463928 total: 167ms remaining: 1.87s
76: learn: 0.4451608 total: 169ms remaining: 1.86s
77: learn: 0.4440456 total: 171ms remaining: 1.86s
78: learn: 0.4430819 total: 172ms remaining: 1.85s
79: learn: 0.4414940 total: 179ms remaining: 1.9s
80: learn: 0.4403990 total: 181ms remaining: 1.9s
81: learn: 0.4394783 total: 183ms remaining: 1.89s
82: learn: 0.4384061 total: 184ms remaining: 1.89s
83: learn: 0.4369584 total: 186ms remaining: 1.88s
84: learn: 0.4360689 total: 189ms remaining: 1.89s
85: learn: 0.4350361 total: 191ms remaining: 1.89s
86: learn: 0.4342172 total: 196ms remaining: 1.91s
87: learn: 0.4331249 total: 200ms remaining: 1.93s
88: learn: 0.4323795 total: 206ms remaining: 1.96s
89: learn: 0.4314921 total: 208ms remaining: 1.96s
90: learn: 0.4303960 total: 210ms remaining: 1.95s
91: learn: 0.4300274 total: 211ms remaining: 1.95s
92: learn: 0.429574 1.95s
```

```
98: learn: 0.4295514 total: 215ms remaining: 1.94s
99: learn: 0.4286415 total: 216ms remaining: 1.94s
100: learn: 0.4276149 total: 218ms remaining: 1.94s
101: learn: 0.4267512 total: 220ms remaining: 1.93s
102: learn: 0.4258551 total: 221ms remaining: 1.93s
103: learn: 0.4250638 total: 223ms remaining: 1.92s
104: learn: 0.4242015 total: 225ms remaining: 1.92s
105: learn: 0.4233017 total: 227ms remaining: 1.92s
106: learn: 0.4224163 total: 229ms remaining: 1.91s
107: learn: 0.4214594 total: 231ms remaining: 1.91s
108: learn: 0.4206729 total: 232ms remaining: 1.89s
109: learn: 0.4197603 total: 233ms remaining: 1.89s
110: learn: 0.4187970 total: 234ms remaining: 1.88s
111: learn: 0.4182438 total: 236ms remaining: 1.87s
112: learn: 0.4173537 total: 237ms remaining: 1.86s
113: learn: 0.4163899 total: 238ms remaining: 1.85s
114: learn: 0.4156666 total: 240ms remaining: 1.85s
115: learn: 0.4149208 total: 243ms remaining: 1.85s
116: learn: 0.4140050 total: 244ms remaining: 1.84s
117: learn: 0.4135220 total: 246ms remaining: 1.84s
118: learn: 0.4128048 total: 247ms remaining: 1.83s
119: learn: 0.4120957 total: 249ms remaining: 1.83s
120: learn: 0.4119626 total: 250ms remaining: 1.82s
121: learn: 0.4113937 total: 252ms remaining: 1.81s
122: learn: 0.4105380 total: 253ms remaining: 1.8s
123: learn: 0.4102363 total: 254ms remaining: 1.8s
124: learn: 0.4100296 total: 255ms remaining: 1.78s
125: learn: 0.4095359 total: 256ms remaining: 1.78s
126: learn: 0.4087203 total: 257ms remaining: 1.77s
127: learn: 0.4082867 total: 259ms remaining: 1.76s
128: learn: 0.4079931 total: 260ms remaining: 1.76s
129: learn: 0.4072937 total: 262ms remaining: 1.75s
130: learn: 0.4064859 total: 263ms remaining: 1.75s
131: learn: 0.4058645 total: 265ms remaining: 1.74s
132: learn: 0.4052609 total: 267ms remaining: 1.74s
133: learn: 0.4046920 total: 268ms remaining: 1.73s
134: learn: 0.4040456 total: 270ms remaining: 1.73s
135: learn: 0.4037046 total: 271ms remaining: 1.72s
136: learn: 0.4033211 total: 274ms remaining: 1.73s
137: learn: 0.4025765 total: 276ms remaining: 1.73s
138: learn: 0.4021219 total: 278ms remaining: 1.72s
139: learn: 0.4015948 total: 279ms remaining: 1.71s
140: learn: 0.4012847 total: 281ms remaining: 1.71s
141: learn: 0.4007420 total: 282ms remaining: 1.71s
142: learn: 0.4003508 total: 284ms remaining: 1.7s
143: learn: 0.3997628 total: 286ms remaining: 1.7s
144: learn: 0.3991634 total: 288ms remaining: 1.7s
145: learn: 0.3984172 total: 290ms remaining: 1.7s
146: learn: 0.3977468 total: 291ms remaining: 1.69s
147: learn: 0.3973055 total: 293ms remaining: 1.69s
148: learn: 0.3969206 total: 294ms remaining: 1.68s
149: learn: 0.3965601 total: 296ms remaining: 1.68s
150: learn: 0.3959588 total: 297ms remaining: 1.67s
151: learn: 0.3957052 total: 298ms remaining: 1.66s
152: learn: 0.3952730 total: 299ms remaining: 1.66s
153: learn: 0.3945927 total: 300ms remaining: 1.65s
154: learn: 0.3941823 total: 302ms remaining: 1.65s
155: learn: 0.3935390 total: 304ms remaining: 1.64s
156: learn: 0.3931319 total: 305ms remaining: 1.64s
157: learn: 0.3927103 total: 307ms remaining: 1.64s
158: learn: 0.3923945 total: 309ms remaining: 1.63s
159: learn: 0.3918895 total: 310ms remaining: 1.63s
160: learn: 0.3915955 total: 312ms remaining: 1.62s
161: learn: 0.3914177 total: 312ms remaining: 1.61s
162: learn: 0.3908409 total: 314ms remaining: 1.61s
163: learn: 0.3903865 total: 315ms remaining: 1.6s
164: learn: 0.3896620 total: 316ms remaining: 1.6s
165: learn: 0.3891090 total: 318ms remaining: 1.6s
166: learn: 0.3886846 total: 319ms remaining: 1.59s
167: learn: 0.3884974 total: 320ms remaining: 1.59s
168: learn: 0.3881731 total: 322ms remaining: 1.58s
169: learn: 0.3880911 total: 323ms remaining: 1.58s
170: ----- 0.3876001 +----- 324ms ----- 1.57s
```

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170: learn: 0.3810291 total: 324ms remaining: 1.57s
171: learn: 0.3871897 total: 326ms remaining: 1.57s
172: learn: 0.3868802 total: 328ms remaining: 1.57s
173: learn: 0.3867839 total: 329ms remaining: 1.56s
174: learn: 0.3863581 total: 331ms remaining: 1.56s
175: learn: 0.3860178 total: 332ms remaining: 1.55s
176: learn: 0.3858008 total: 333ms remaining: 1.55s
177: learn: 0.3854511 total: 335ms remaining: 1.54s
178: learn: 0.3851571 total: 336ms remaining: 1.54s
179: learn: 0.3847453 total: 337ms remaining: 1.53s
180: learn: 0.3842593 total: 338ms remaining: 1.53s
181: learn: 0.3838828 total: 339ms remaining: 1.52s
182: learn: 0.3834501 total: 340ms remaining: 1.52s
183: learn: 0.3832375 total: 341ms remaining: 1.51s
184: learn: 0.3829076 total: 343ms remaining: 1.51s
185: learn: 0.3825343 total: 344ms remaining: 1.5s
186: learn: 0.3822131 total: 345ms remaining: 1.5s
187: learn: 0.3817425 total: 346ms remaining: 1.5s
188: learn: 0.3815099 total: 347ms remaining: 1.49s
189: learn: 0.3811408 total: 349ms remaining: 1.49s
190: learn: 0.3806911 total: 350ms remaining: 1.48s
191: learn: 0.3802553 total: 352ms remaining: 1.48s
192: learn: 0.3799202 total: 353ms remaining: 1.48s
193: learn: 0.3794444 total: 354ms remaining: 1.47s
194: learn: 0.3792336 total: 355ms remaining: 1.47s
195: learn: 0.3788714 total: 357ms remaining: 1.46s
196: learn: 0.3785905 total: 358ms remaining: 1.46s
197: learn: 0.3784269 total: 358ms remaining: 1.45s
198: learn: 0.3781372 total: 360ms remaining: 1.45s
199: learn: 0.3778529 total: 361ms remaining: 1.44s
200: learn: 0.3776693 total: 362ms remaining: 1.44s
201: learn: 0.3773131 total: 363ms remaining: 1.43s
202: learn: 0.3770443 total: 364ms remaining: 1.43s
203: learn: 0.3765878 total: 366ms remaining: 1.43s
204: learn: 0.3764694 total: 367ms remaining: 1.42s
205: learn: 0.3761124 total: 368ms remaining: 1.42s
206: learn: 0.3756817 total: 369ms remaining: 1.41s
207: learn: 0.3755571 total: 371ms remaining: 1.41s
208: learn: 0.3753337 total: 372ms remaining: 1.41s
209: learn: 0.3750645 total: 373ms remaining: 1.4s
210: learn: 0.3749541 total: 374ms remaining: 1.4s
211: learn: 0.3747360 total: 376ms remaining: 1.4s
212: learn: 0.3743760 total: 378ms remaining: 1.4s
213: learn: 0.3741446 total: 380ms remaining: 1.39s
214: learn: 0.3740263 total: 381ms remaining: 1.39s
215: learn: 0.3737502 total: 384ms remaining: 1.39s
216: learn: 0.3735957 total: 386ms remaining: 1.39s
217: learn: 0.3734228 total: 388ms remaining: 1.39s
218: learn: 0.3731446 total: 390ms remaining: 1.39s
219: learn: 0.3728735 total: 392ms remaining: 1.39s
220: learn: 0.3725326 total: 393ms remaining: 1.39s
221: learn: 0.3722814 total: 394ms remaining: 1.38s
222: learn: 0.3718962 total: 396ms remaining: 1.38s
223: learn: 0.3716794 total: 398ms remaining: 1.38s
224: learn: 0.3714581 total: 399ms remaining: 1.37s
225: learn: 0.3711691 total: 401ms remaining: 1.37s
226: learn: 0.3709826 total: 402ms remaining: 1.37s
227: learn: 0.3707051 total: 404ms remaining: 1.37s
228: learn: 0.3703966 total: 405ms remaining: 1.36s
229: learn: 0.3701807 total: 407ms remaining: 1.36s
230: learn: 0.3700276 total: 408ms remaining: 1.36s
231: learn: 0.3697845 total: 410ms remaining: 1.36s
232: learn: 0.3695055 total: 411ms remaining: 1.35s
233: learn: 0.3692557 total: 413ms remaining: 1.35s
234: learn: 0.3689322 total: 414ms remaining: 1.35s
235: learn: 0.3687009 total: 415ms remaining: 1.34s
236: learn: 0.3684057 total: 416ms remaining: 1.34s
237: learn: 0.3682305 total: 417ms remaining: 1.34s
238: learn: 0.3679897 total: 419ms remaining: 1.33s
239: learn: 0.3675998 total: 420ms remaining: 1.33s
240: learn: 0.3672045 total: 421ms remaining: 1.33s
241: learn: 0.3670243 total: 422ms remaining: 1.32s
242: ----- 0.3660000 +----- 1.32s
```

```
242: learn: 0.3609029 total: 424ms remaining: 1.32s
243: learn: 0.3666563 total: 425ms remaining: 1.32s
244: learn: 0.3664208 total: 427ms remaining: 1.31s
245: learn: 0.3662161 total: 428ms remaining: 1.31s
246: learn: 0.3658429 total: 429ms remaining: 1.31s
247: learn: 0.3656162 total: 430ms remaining: 1.3s
248: learn: 0.3652889 total: 431ms remaining: 1.3s
249: learn: 0.3650341 total: 432ms remaining: 1.29s
250: learn: 0.3648954 total: 433ms remaining: 1.29s
251: learn: 0.3646017 total: 434ms remaining: 1.29s
252: learn: 0.3642780 total: 435ms remaining: 1.28s
253: learn: 0.3640875 total: 437ms remaining: 1.28s
254: learn: 0.3638835 total: 438ms remaining: 1.28s
255: learn: 0.3637248 total: 439ms remaining: 1.27s
256: learn: 0.3635607 total: 440ms remaining: 1.27s
257: learn: 0.3632496 total: 441ms remaining: 1.27s
258: learn: 0.3630843 total: 442ms remaining: 1.26s
259: learn: 0.3628491 total: 444ms remaining: 1.26s
260: learn: 0.3627004 total: 445ms remaining: 1.26s
261: learn: 0.3623932 total: 447ms remaining: 1.26s
262: learn: 0.3622038 total: 448ms remaining: 1.25s
263: learn: 0.3620700 total: 449ms remaining: 1.25s
264: learn: 0.3617894 total: 450ms remaining: 1.25s
265: learn: 0.3615558 total: 451ms remaining: 1.25s
266: learn: 0.3613812 total: 453ms remaining: 1.24s
267: learn: 0.3610852 total: 454ms remaining: 1.24s
268: learn: 0.3607640 total: 455ms remaining: 1.24s
269: learn: 0.3605423 total: 457ms remaining: 1.23s
270: learn: 0.3602994 total: 458ms remaining: 1.23s
271: learn: 0.3600973 total: 459ms remaining: 1.23s
272: learn: 0.3598614 total: 460ms remaining: 1.23s
273: learn: 0.3595515 total: 462ms remaining: 1.22s
274: learn: 0.3591248 total: 463ms remaining: 1.22s
275: learn: 0.3588949 total: 465ms remaining: 1.22s
276: learn: 0.3587014 total: 466ms remaining: 1.22s
277: learn: 0.3585765 total: 467ms remaining: 1.21s
278: learn: 0.3584427 total: 468ms remaining: 1.21s
279: learn: 0.3583216 total: 469ms remaining: 1.21s
280: learn: 0.3581143 total: 470ms remaining: 1.2s
281: learn: 0.3579955 total: 472ms remaining: 1.2s
282: learn: 0.3578405 total: 473ms remaining: 1.2s
283: learn: 0.3575608 total: 474ms remaining: 1.2s
284: learn: 0.3574529 total: 476ms remaining: 1.19s
285: learn: 0.3574113 total: 478ms remaining: 1.19s
286: learn: 0.3572600 total: 479ms remaining: 1.19s
287: learn: 0.3570955 total: 480ms remaining: 1.19s
288: learn: 0.3570081 total: 482ms remaining: 1.19s
289: learn: 0.3568492 total: 483ms remaining: 1.18s
290: learn: 0.3566242 total: 485ms remaining: 1.18s
291: learn: 0.3564437 total: 486ms remaining: 1.18s
292: learn: 0.3562291 total: 487ms remaining: 1.18s
293: learn: 0.3561600 total: 489ms remaining: 1.17s
294: learn: 0.3559142 total: 490ms remaining: 1.17s
295: learn: 0.3557591 total: 491ms remaining: 1.17s
296: learn: 0.3556485 total: 493ms remaining: 1.17s
297: learn: 0.3555017 total: 494ms remaining: 1.16s
298: learn: 0.3553308 total: 496ms remaining: 1.16s
299: learn: 0.3552162 total: 497ms remaining: 1.16s
300: learn: 0.3548900 total: 498ms remaining: 1.16s
301: learn: 0.3547379 total: 499ms remaining: 1.15s
302: learn: 0.3544846 total: 500ms remaining: 1.15s
303: learn: 0.3542060 total: 501ms remaining: 1.15s
304: learn: 0.3540194 total: 502ms remaining: 1.14s
305: learn: 0.3538581 total: 504ms remaining: 1.14s
306: learn: 0.3537515 total: 505ms remaining: 1.14s
307: learn: 0.3536982 total: 507ms remaining: 1.14s
308: learn: 0.3535546 total: 508ms remaining: 1.14s
309: learn: 0.3533762 total: 510ms remaining: 1.13s
310: learn: 0.3533431 total: 510ms remaining: 1.13s
311: learn: 0.3531484 total: 512ms remaining: 1.13s
312: learn: 0.3529886 total: 513ms remaining: 1.13s
313: learn: 0.3528050 total: 514ms remaining: 1.12s
314: learn: 0.3526051 total: 515ms remaining: 1.12s
```

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314: learn: 0.3526054 total: 515ms remaining: 1.12s
315: learn: 0.3524019 total: 517ms remaining: 1.12s
316: learn: 0.3521393 total: 518ms remaining: 1.11s
317: learn: 0.3519732 total: 519ms remaining: 1.11s
318: learn: 0.3517303 total: 520ms remaining: 1.11s
319: learn: 0.3515639 total: 521ms remaining: 1.11s
320: learn: 0.3512889 total: 522ms remaining: 1.1s
321: learn: 0.3511312 total: 523ms remaining: 1.1s
322: learn: 0.3509578 total: 525ms remaining: 1.1s
323: learn: 0.3507527 total: 526ms remaining: 1.1s
324: learn: 0.3506157 total: 527ms remaining: 1.09s
325: learn: 0.3505015 total: 528ms remaining: 1.09s
326: learn: 0.3504818 total: 528ms remaining: 1.09s
327: learn: 0.3503647 total: 529ms remaining: 1.08s
328: learn: 0.3503396 total: 530ms remaining: 1.08s
329: learn: 0.3502359 total: 532ms remaining: 1.08s
330: learn: 0.3499521 total: 533ms remaining: 1.08s
331: learn: 0.3498077 total: 534ms remaining: 1.07s
332: learn: 0.3497827 total: 535ms remaining: 1.07s
333: learn: 0.3496325 total: 536ms remaining: 1.07s
334: learn: 0.3494746 total: 538ms remaining: 1.07s
335: learn: 0.3493628 total: 539ms remaining: 1.06s
336: learn: 0.3492246 total: 540ms remaining: 1.06s
337: learn: 0.3491313 total: 541ms remaining: 1.06s
338: learn: 0.3489916 total: 542ms remaining: 1.06s
339: learn: 0.3489012 total: 543ms remaining: 1.05s
340: learn: 0.3487211 total: 544ms remaining: 1.05s
341: learn: 0.3486963 total: 545ms remaining: 1.05s
342: learn: 0.3486906 total: 546ms remaining: 1.04s
343: learn: 0.3486198 total: 547ms remaining: 1.04s
344: learn: 0.3485483 total: 548ms remaining: 1.04s
345: learn: 0.3483590 total: 549ms remaining: 1.04s
346: learn: 0.3482274 total: 550ms remaining: 1.03s
347: learn: 0.3480383 total: 551ms remaining: 1.03s
348: learn: 0.3477481 total: 553ms remaining: 1.03s
349: learn: 0.3475478 total: 554ms remaining: 1.03s
350: learn: 0.3472527 total: 555ms remaining: 1.02s
351: learn: 0.3471916 total: 556ms remaining: 1.02s
352: learn: 0.3470559 total: 557ms remaining: 1.02s
353: learn: 0.3468957 total: 559ms remaining: 1.02s
354: learn: 0.3466782 total: 561ms remaining: 1.02s
355: learn: 0.3465597 total: 562ms remaining: 1.02s
356: learn: 0.3463354 total: 565ms remaining: 1.02s
357: learn: 0.3462098 total: 566ms remaining: 1.01s
358: learn: 0.3460287 total: 568ms remaining: 1.01s
359: learn: 0.3459769 total: 569ms remaining: 1.01s
360: learn: 0.3459034 total: 570ms remaining: 1.01s
361: learn: 0.3457972 total: 571ms remaining: 1.01s
362: learn: 0.3457306 total: 572ms remaining: 1s
363: learn: 0.3454929 total: 573ms remaining: 1s
364: learn: 0.3453022 total: 575ms remaining: 1000ms
365: learn: 0.3450766 total: 576ms remaining: 997ms
366: learn: 0.3449881 total: 577ms remaining: 995ms
367: learn: 0.3449302 total: 578ms remaining: 993ms
368: learn: 0.3448840 total: 580ms remaining: 991ms
369: learn: 0.3447551 total: 581ms remaining: 989ms
370: learn: 0.3446670 total: 583ms remaining: 988ms
371: learn: 0.3445026 total: 584ms remaining: 986ms
372: learn: 0.3442904 total: 585ms remaining: 984ms
373: learn: 0.3442628 total: 587ms remaining: 982ms
374: learn: 0.3442020 total: 588ms remaining: 981ms
375: learn: 0.3440265 total: 590ms remaining: 978ms
376: learn: 0.3439595 total: 591ms remaining: 977ms
377: learn: 0.3438163 total: 592ms remaining: 974ms
378: learn: 0.3436305 total: 594ms remaining: 973ms
379: learn: 0.3434105 total: 595ms remaining: 970ms
380: learn: 0.3432851 total: 596ms remaining: 968ms
381: learn: 0.3432579 total: 597ms remaining: 966ms
382: learn: 0.3431960 total: 598ms remaining: 963ms
383: learn: 0.3429891 total: 600ms remaining: 962ms
384: learn: 0.3428191 total: 601ms remaining: 961ms
385: learn: 0.3427661 total: 603ms remaining: 959ms
386: learn: 0.3426102 total: 604ms remaining: 957ms
```

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500: learn: 0.3426185 total: 604ms remaining: 957ms
387: learn: 0.3424969 total: 606ms remaining: 957ms
388: learn: 0.3422953 total: 608ms remaining: 955ms
389: learn: 0.3420787 total: 609ms remaining: 953ms
390: learn: 0.3419967 total: 611ms remaining: 952ms
391: learn: 0.3419765 total: 612ms remaining: 950ms
392: learn: 0.3419201 total: 614ms remaining: 948ms
393: learn: 0.3418554 total: 615ms remaining: 946ms
394: learn: 0.3417984 total: 617ms remaining: 945ms
395: learn: 0.3417962 total: 618ms remaining: 943ms
396: learn: 0.3416791 total: 619ms remaining: 941ms
397: learn: 0.3415480 total: 621ms remaining: 940ms
398: learn: 0.3414649 total: 623ms remaining: 938ms
399: learn: 0.3414111 total: 624ms remaining: 936ms
400: learn: 0.3412362 total: 626ms remaining: 935ms
401: learn: 0.3411123 total: 627ms remaining: 933ms
402: learn: 0.3410062 total: 629ms remaining: 932ms
403: learn: 0.3408755 total: 630ms remaining: 930ms
404: learn: 0.3406585 total: 632ms remaining: 928ms
405: learn: 0.3405226 total: 633ms remaining: 927ms
406: learn: 0.3404659 total: 635ms remaining: 925ms
407: learn: 0.3403840 total: 636ms remaining: 923ms
408: learn: 0.3401996 total: 638ms remaining: 921ms
409: learn: 0.3399005 total: 639ms remaining: 919ms
410: learn: 0.3395436 total: 641ms remaining: 918ms
411: learn: 0.3394271 total: 642ms remaining: 917ms
412: learn: 0.3393812 total: 644ms remaining: 915ms
413: learn: 0.3391893 total: 645ms remaining: 913ms
414: learn: 0.3391850 total: 646ms remaining: 910ms
415: learn: 0.3390844 total: 647ms remaining: 909ms
416: learn: 0.3389421 total: 649ms remaining: 907ms
417: learn: 0.3388832 total: 650ms remaining: 905ms
418: learn: 0.3386800 total: 651ms remaining: 903ms
419: learn: 0.3385918 total: 652ms remaining: 901ms
420: learn: 0.3384610 total: 653ms remaining: 898ms
421: learn: 0.3383244 total: 654ms remaining: 896ms
422: learn: 0.3383128 total: 655ms remaining: 893ms
423: learn: 0.3380150 total: 656ms remaining: 891ms
424: learn: 0.3379133 total: 657ms remaining: 889ms
425: learn: 0.3377716 total: 658ms remaining: 887ms
426: learn: 0.3375782 total: 659ms remaining: 885ms
427: learn: 0.3373644 total: 660ms remaining: 882ms
428: learn: 0.3372198 total: 662ms remaining: 881ms
429: learn: 0.3371177 total: 663ms remaining: 879ms
430: learn: 0.3370600 total: 664ms remaining: 877ms
431: learn: 0.3370433 total: 666ms remaining: 875ms
432: learn: 0.3370360 total: 668ms remaining: 874ms
433: learn: 0.3368500 total: 671ms remaining: 875ms
434: learn: 0.3366859 total: 674ms remaining: 875ms
435: learn: 0.3365840 total: 677ms remaining: 875ms
436: learn: 0.3363649 total: 681ms remaining: 877ms
437: learn: 0.3362217 total: 684ms remaining: 877ms
438: learn: 0.3360912 total: 687ms remaining: 878ms
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443: learn: 0.3354767 total: 694ms remaining: 869ms
444: learn: 0.3354062 total: 695ms remaining: 867ms
445: learn: 0.3352359 total: 696ms remaining: 865ms
446: learn: 0.3351754 total: 697ms remaining: 863ms
447: learn: 0.3351240 total: 699ms remaining: 861ms
448: learn: 0.3350025 total: 700ms remaining: 858ms
449: learn: 0.3349147 total: 701ms remaining: 856ms
450: learn: 0.3347728 total: 702ms remaining: 854ms
451: learn: 0.3346981 total: 703ms remaining: 852ms
452: learn: 0.3345507 total: 704ms remaining: 850ms
453: learn: 0.3344438 total: 705ms remaining: 848ms
454: learn: 0.3343100 total: 706ms remaining: 846ms
455: learn: 0.3342591 total: 707ms remaining: 844ms
456: learn: 0.3342211 total: 709ms remaining: 842ms
457: learn: 0.3341494 total: 710ms remaining: 841ms
458: learn: 0.3341057 total: 712ms remaining: 840ms
```

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458: learn: 0.334125 / total: 712ms remaining: 859ms
459: learn: 0.3339193 total: 714ms remaining: 838ms
460: learn: 0.3338502 total: 716ms remaining: 837ms
461: learn: 0.3337770 total: 718ms remaining: 836ms
462: learn: 0.3336443 total: 720ms remaining: 835ms
463: learn: 0.3334241 total: 721ms remaining: 833ms
464: learn: 0.3333432 total: 723ms remaining: 831ms
465: learn: 0.3330680 total: 724ms remaining: 830ms
466: learn: 0.3328910 total: 726ms remaining: 828ms
467: learn: 0.3328373 total: 727ms remaining: 826ms
468: learn: 0.3326200 total: 728ms remaining: 825ms
469: learn: 0.3325616 total: 730ms remaining: 824ms
470: learn: 0.3325153 total: 732ms remaining: 822ms
471: learn: 0.3324154 total: 734ms remaining: 821ms
472: learn: 0.3323584 total: 736ms remaining: 820ms
473: learn: 0.3322985 total: 738ms remaining: 819ms
474: learn: 0.3322521 total: 740ms remaining: 818ms
475: learn: 0.3321042 total: 742ms remaining: 817ms
476: learn: 0.3320971 total: 743ms remaining: 815ms
477: learn: 0.3319563 total: 745ms remaining: 813ms
478: learn: 0.3317906 total: 746ms remaining: 811ms
479: learn: 0.3317255 total: 748ms remaining: 810ms
480: learn: 0.3316960 total: 749ms remaining: 808ms
481: learn: 0.3315768 total: 750ms remaining: 806ms
482: learn: 0.3313909 total: 752ms remaining: 804ms
483: learn: 0.3312458 total: 753ms remaining: 803ms
484: learn: 0.3310589 total: 754ms remaining: 801ms
485: learn: 0.3309647 total: 756ms remaining: 799ms
486: learn: 0.3308420 total: 757ms remaining: 797ms
487: learn: 0.3308296 total: 758ms remaining: 795ms
488: learn: 0.3305480 total: 759ms remaining: 793ms
489: learn: 0.3303541 total: 761ms remaining: 792ms
490: learn: 0.3302809 total: 762ms remaining: 790ms
491: learn: 0.3301944 total: 763ms remaining: 788ms
492: learn: 0.3301210 total: 764ms remaining: 786ms
493: learn: 0.3300695 total: 765ms remaining: 784ms
494: learn: 0.3299149 total: 766ms remaining: 782ms
495: learn: 0.3297963 total: 767ms remaining: 780ms
496: learn: 0.3296869 total: 768ms remaining: 778ms
497: learn: 0.3295401 total: 770ms remaining: 776ms
498: learn: 0.3294406 total: 771ms remaining: 774ms
499: learn: 0.3293439 total: 772ms remaining: 772ms
500: learn: 0.3292004 total: 773ms remaining: 770ms
501: learn: 0.3291869 total: 774ms remaining: 768ms
502: learn: 0.3291732 total: 775ms remaining: 765ms
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505: learn: 0.3290072 total: 777ms remaining: 758ms
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508: learn: 0.3286322 total: 780ms remaining: 753ms
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511: learn: 0.3283253 total: 784ms remaining: 747ms
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519: learn: 0.3276171 total: 794ms remaining: 733ms
520: learn: 0.3273427 total: 795ms remaining: 731ms
521: learn: 0.3273078 total: 796ms remaining: 729ms
522: learn: 0.3271384 total: 798ms remaining: 727ms
523: learn: 0.3271190 total: 799ms remaining: 726ms
524: learn: 0.3270715 total: 801ms remaining: 724ms
525: learn: 0.3269809 total: 802ms remaining: 723ms
526: learn: 0.3268756 total: 803ms remaining: 721ms
527: learn: 0.3264953 total: 805ms remaining: 719ms
528: learn: 0.3263018 total: 806ms remaining: 718ms
529: learn: 0.3261935 total: 807ms remaining: 716ms
530: learn: 0.3260120 total: 808ms remaining: 715ms
```

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530: learn: 0.3258020 total: 809ms remaining: 715ms
531: learn: 0.3258940 total: 810ms remaining: 713ms
532: learn: 0.3258003 total: 812ms remaining: 711ms
533: learn: 0.3257557 total: 813ms remaining: 710ms
534: learn: 0.3256920 total: 815ms remaining: 708ms
535: learn: 0.3254907 total: 816ms remaining: 706ms
536: learn: 0.3254726 total: 817ms remaining: 704ms
537: learn: 0.3253548 total: 818ms remaining: 703ms
538: learn: 0.3252087 total: 820ms remaining: 701ms
539: learn: 0.3249806 total: 821ms remaining: 699ms
540: learn: 0.3248981 total: 822ms remaining: 697ms
541: learn: 0.3247953 total: 823ms remaining: 696ms
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543: learn: 0.3244662 total: 826ms remaining: 692ms
544: learn: 0.3244270 total: 827ms remaining: 690ms
545: learn: 0.3243441 total: 828ms remaining: 688ms
546: learn: 0.3242503 total: 829ms remaining: 687ms
547: learn: 0.3242185 total: 830ms remaining: 685ms
548: learn: 0.3241201 total: 831ms remaining: 683ms
549: learn: 0.3240118 total: 832ms remaining: 681ms
550: learn: 0.3238059 total: 833ms remaining: 679ms
551: learn: 0.3237029 total: 835ms remaining: 677ms
552: learn: 0.3236313 total: 836ms remaining: 675ms
553: learn: 0.3235469 total: 837ms remaining: 674ms
554: learn: 0.3234786 total: 838ms remaining: 672ms
555: learn: 0.3233862 total: 839ms remaining: 670ms
556: learn: 0.3233034 total: 840ms remaining: 668ms
557: learn: 0.3232809 total: 841ms remaining: 666ms
558: learn: 0.3231560 total: 842ms remaining: 664ms
559: learn: 0.3231029 total: 843ms remaining: 662ms
560: learn: 0.3230222 total: 844ms remaining: 661ms
561: learn: 0.3228860 total: 846ms remaining: 659ms
562: learn: 0.3228408 total: 847ms remaining: 658ms
563: learn: 0.3226232 total: 849ms remaining: 656ms
564: learn: 0.3225858 total: 850ms remaining: 654ms
565: learn: 0.3223862 total: 851ms remaining: 653ms
566: learn: 0.3223647 total: 853ms remaining: 651ms
567: learn: 0.3222330 total: 854ms remaining: 649ms
568: learn: 0.3221076 total: 855ms remaining: 648ms
569: learn: 0.3219573 total: 856ms remaining: 646ms
570: learn: 0.3218315 total: 857ms remaining: 644ms
571: learn: 0.3217652 total: 859ms remaining: 642ms
572: learn: 0.3217273 total: 860ms remaining: 641ms
573: learn: 0.3216423 total: 861ms remaining: 639ms
574: learn: 0.3215566 total: 862ms remaining: 637ms
575: learn: 0.3214938 total: 863ms remaining: 635ms
576: learn: 0.3213332 total: 865ms remaining: 634ms
577: learn: 0.3212781 total: 866ms remaining: 632ms
578: learn: 0.3210473 total: 867ms remaining: 630ms
579: learn: 0.3209975 total: 868ms remaining: 629ms
580: learn: 0.3208435 total: 869ms remaining: 627ms
581: learn: 0.3206522 total: 870ms remaining: 625ms
582: learn: 0.3205450 total: 871ms remaining: 623ms
583: learn: 0.3205321 total: 872ms remaining: 621ms
584: learn: 0.3204562 total: 873ms remaining: 619ms
585: learn: 0.3204138 total: 874ms remaining: 618ms
586: learn: 0.3203263 total: 875ms remaining: 616ms
587: learn: 0.3202910 total: 876ms remaining: 614ms
588: learn: 0.3201954 total: 877ms remaining: 612ms
589: learn: 0.3201293 total: 879ms remaining: 611ms
590: learn: 0.3201077 total: 880ms remaining: 609ms
591: learn: 0.3200210 total: 881ms remaining: 607ms
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593: learn: 0.3197593 total: 885ms remaining: 605ms
594: learn: 0.3195954 total: 887ms remaining: 603ms
595: learn: 0.3195481 total: 889ms remaining: 603ms
596: learn: 0.3195006 total: 891ms remaining: 601ms
597: learn: 0.3194088 total: 892ms remaining: 600ms
598: learn: 0.3193048 total: 894ms remaining: 598ms
599: learn: 0.3192069 total: 896ms remaining: 597ms
600: learn: 0.3191493 total: 897ms remaining: 595ms
601: learn: 0.3190227 total: 898ms remaining: 594ms
602: learn: 0.3190227 total: 899ms remaining: 593ms
```

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592ms
591ms
589ms
588ms
586ms
584ms
583ms
581ms
580ms
578ms
577ms
575ms
575ms
573ms
572ms
571ms
569ms
568ms
567ms
565ms
564ms
562ms
561ms
560ms
558ms
557ms
555ms
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542ms
541ms
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532ms
531ms
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526ms
524ms
523ms
522ms
520ms
519ms
518ms
516ms
514ms
513ms
511ms
510ms
508ms
506ms
505ms
503ms
501ms
500ms
498ms
497ms
496ms
494ms
493ms
491ms
489ms
488ms
486ms
484ms
```

```
0/4: learn: 0.3114941 total: 1s remaining: 485ms
675: learn: 0.3114510 total: 1s remaining: 481ms
676: learn: 0.3112203 total: 1s remaining: 480ms
677: learn: 0.3110508 total: 1.01s remaining: 478ms
678: learn: 0.3110102 total: 1.01s remaining: 477ms
679: learn: 0.3108967 total: 1.01s remaining: 475ms
680: learn: 0.3108654 total: 1.01s remaining: 473ms
681: learn: 0.3106962 total: 1.01s remaining: 472ms
682: learn: 0.3106458 total: 1.01s remaining: 471ms
683: learn: 0.3105959 total: 1.01s remaining: 469ms
684: learn: 0.3105300 total: 1.02s remaining: 468ms
685: learn: 0.3104842 total: 1.02s remaining: 466ms
686: learn: 0.3103326 total: 1.02s remaining: 465ms
687: learn: 0.3103258 total: 1.02s remaining: 463ms
688: learn: 0.3102945 total: 1.02s remaining: 461ms
689: learn: 0.3102384 total: 1.02s remaining: 460ms
690: learn: 0.3101594 total: 1.02s remaining: 458ms
691: learn: 0.3101370 total: 1.02s remaining: 457ms
692: learn: 0.3099302 total: 1.03s remaining: 455ms
693: learn: 0.3098841 total: 1.03s remaining: 454ms
694: learn: 0.3098660 total: 1.03s remaining: 452ms
695: learn: 0.3096396 total: 1.03s remaining: 451ms
696: learn: 0.3096292 total: 1.03s remaining: 449ms
697: learn: 0.3096060 total: 1.03s remaining: 447ms
698: learn: 0.3094642 total: 1.03s remaining: 446ms
699: learn: 0.3093648 total: 1.03s remaining: 444ms
700: learn: 0.3091002 total: 1.04s remaining: 442ms
701: learn: 0.3088913 total: 1.04s remaining: 441ms
702: learn: 0.3087764 total: 1.04s remaining: 439ms
703: learn: 0.3087121 total: 1.04s remaining: 437ms
704: learn: 0.3085213 total: 1.04s remaining: 436ms
705: learn: 0.3084900 total: 1.04s remaining: 434ms
706: learn: 0.3082615 total: 1.04s remaining: 432ms
707: learn: 0.3082205 total: 1.04s remaining: 431ms
708: learn: 0.3081993 total: 1.04s remaining: 429ms
709: learn: 0.3081296 total: 1.05s remaining: 428ms
710: learn: 0.3080477 total: 1.05s remaining: 426ms
711: learn: 0.3079610 total: 1.05s remaining: 425ms
712: learn: 0.3078240 total: 1.05s remaining: 424ms
713: learn: 0.3076882 total: 1.05s remaining: 422ms
714: learn: 0.3075188 total: 1.05s remaining: 421ms
715: learn: 0.3073993 total: 1.06s remaining: 419ms
716: learn: 0.3073657 total: 1.06s remaining: 418ms
717: learn: 0.3072962 total: 1.06s remaining: 417ms
718: learn: 0.3071896 total: 1.06s remaining: 415ms
719: learn: 0.3070651 total: 1.06s remaining: 414ms
720: learn: 0.3069570 total: 1.06s remaining: 412ms
721: learn: 0.3068108 total: 1.07s remaining: 411ms
722: learn: 0.3067698 total: 1.07s remaining: 409ms
723: learn: 0.3066635 total: 1.07s remaining: 408ms
724: learn: 0.3065437 total: 1.07s remaining: 406ms
725: learn: 0.3064340 total: 1.07s remaining: 405ms
726: learn: 0.3063286 total: 1.07s remaining: 403ms
727: learn: 0.3062857 total: 1.07s remaining: 402ms
728: learn: 0.3061451 total: 1.07s remaining: 400ms
729: learn: 0.3061026 total: 1.08s remaining: 398ms
730: learn: 0.3060135 total: 1.08s remaining: 397ms
731: learn: 0.3059533 total: 1.08s remaining: 396ms
732: learn: 0.3058187 total: 1.08s remaining: 395ms
733: learn: 0.3055647 total: 1.09s remaining: 394ms
734: learn: 0.3054288 total: 1.09s remaining: 393ms
735: learn: 0.3053118 total: 1.09s remaining: 391ms
736: learn: 0.3052838 total: 1.09s remaining: 390ms
737: learn: 0.3051244 total: 1.09s remaining: 388ms
738: learn: 0.3050313 total: 1.09s remaining: 387ms
739: learn: 0.3049387 total: 1.1s remaining: 385ms
740: learn: 0.3048088 total: 1.1s remaining: 384ms
741: learn: 0.3047582 total: 1.1s remaining: 382ms
742: learn: 0.3045958 total: 1.1s remaining: 381ms
743: learn: 0.3045221 total: 1.1s remaining: 379ms
744: learn: 0.3044754 total: 1.1s remaining: 378ms
745: learn: 0.3044509 total: 1.1s remaining: 377ms
746: learn: 0.3044200 total: 1.1s remaining: 375ms
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740: learn: 0.3045900 total: 1.11s remaining: 510ms
741: learn: 0.3040945 total: 1.11s remaining: 374ms
742: learn: 0.3038984 total: 1.11s remaining: 372ms
743: learn: 0.3038193 total: 1.11s remaining: 371ms
744: learn: 0.3037917 total: 1.11s remaining: 369ms
745: learn: 0.3037522 total: 1.11s remaining: 368ms
746: learn: 0.3037488 total: 1.11s remaining: 366ms
747: learn: 0.3036769 total: 1.12s remaining: 364ms
748: learn: 0.3034860 total: 1.12s remaining: 363ms
749: learn: 0.3034095 total: 1.12s remaining: 362ms
750: learn: 0.3032959 total: 1.12s remaining: 360ms
751: learn: 0.3032625 total: 1.12s remaining: 359ms
752: learn: 0.3031721 total: 1.12s remaining: 357ms
753: learn: 0.3029812 total: 1.13s remaining: 356ms
754: learn: 0.3028624 total: 1.13s remaining: 354ms
755: learn: 0.3026988 total: 1.13s remaining: 353ms
756: learn: 0.3026261 total: 1.13s remaining: 351ms
757: learn: 0.3025886 total: 1.13s remaining: 350ms
758: learn: 0.3025497 total: 1.13s remaining: 349ms
759: learn: 0.3024441 total: 1.14s remaining: 347ms
760: learn: 0.3023359 total: 1.14s remaining: 346ms
761: learn: 0.3022810 total: 1.14s remaining: 344ms
762: learn: 0.3021258 total: 1.14s remaining: 343ms
763: learn: 0.3020787 total: 1.14s remaining: 341ms
764: learn: 0.3020204 total: 1.14s remaining: 340ms
765: learn: 0.3019782 total: 1.15s remaining: 339ms
766: learn: 0.3019046 total: 1.15s remaining: 337ms
767: learn: 0.3018975 total: 1.15s remaining: 336ms
768: learn: 0.3017271 total: 1.15s remaining: 334ms
769: learn: 0.3016557 total: 1.15s remaining: 333ms
770: learn: 0.3015515 total: 1.16s remaining: 332ms
771: learn: 0.3013313 total: 1.16s remaining: 330ms
772: learn: 0.3012939 total: 1.16s remaining: 329ms
773: learn: 0.3010758 total: 1.16s remaining: 327ms
774: learn: 0.3010431 total: 1.16s remaining: 326ms
775: learn: 0.3009258 total: 1.16s remaining: 324ms
776: learn: 0.3009216 total: 1.17s remaining: 323ms
777: learn: 0.3008427 total: 1.17s remaining: 322ms
778: learn: 0.3007548 total: 1.17s remaining: 320ms
779: learn: 0.3005491 total: 1.17s remaining: 319ms
780: learn: 0.3005279 total: 1.17s remaining: 317ms
781: learn: 0.3003096 total: 1.17s remaining: 316ms
782: learn: 0.2999912 total: 1.18s remaining: 314ms
783: learn: 0.2998416 total: 1.18s remaining: 313ms
784: learn: 0.2997929 total: 1.18s remaining: 312ms
785: learn: 0.2996743 total: 1.18s remaining: 310ms
786: learn: 0.2996138 total: 1.18s remaining: 309ms
787: learn: 0.2994341 total: 1.18s remaining: 307ms
788: learn: 0.2994057 total: 1.18s remaining: 306ms
789: learn: 0.2993378 total: 1.19s remaining: 304ms
790: learn: 0.2992334 total: 1.19s remaining: 302ms
791: learn: 0.2991282 total: 1.19s remaining: 301ms
792: learn: 0.2990434 total: 1.19s remaining: 300ms
793: learn: 0.2989803 total: 1.19s remaining: 298ms
794: learn: 0.2988832 total: 1.19s remaining: 297ms
795: learn: 0.2987511 total: 1.2s remaining: 295ms
796: learn: 0.2986104 total: 1.2s remaining: 294ms
797: learn: 0.2985682 total: 1.2s remaining: 292ms
798: learn: 0.2984331 total: 1.2s remaining: 291ms
799: learn: 0.2983828 total: 1.2s remaining: 290ms
800: learn: 0.2982940 total: 1.2s remaining: 288ms
801: learn: 0.2982009 total: 1.21s remaining: 287ms
802: learn: 0.2980899 total: 1.21s remaining: 285ms
803: learn: 0.2980265 total: 1.21s remaining: 284ms
804: learn: 0.2978279 total: 1.21s remaining: 282ms
805: learn: 0.2977527 total: 1.21s remaining: 281ms
806: learn: 0.2976333 total: 1.21s remaining: 279ms
807: learn: 0.2974487 total: 1.22s remaining: 278ms
808: learn: 0.2973761 total: 1.22s remaining: 277ms
809: learn: 0.2972528 total: 1.22s remaining: 275ms
810: learn: 0.2971873 total: 1.22s remaining: 274ms
811: learn: 0.2970880 total: 1.22s remaining: 272ms
812: learn: 0.2969505 total: 1.22s remaining: 271ms
```

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818: learn: 0.2969555 total: 1.25s remaining: 271ms
819: learn: 0.2968560 total: 1.23s remaining: 270ms
820: learn: 0.2967460 total: 1.23s remaining: 268ms
821: learn: 0.2967110 total: 1.23s remaining: 267ms
822: learn: 0.2966457 total: 1.23s remaining: 265ms
823: learn: 0.2965711 total: 1.23s remaining: 264ms
824: learn: 0.2965386 total: 1.24s remaining: 262ms
825: learn: 0.2964117 total: 1.24s remaining: 261ms
826: learn: 0.2963521 total: 1.24s remaining: 260ms
827: learn: 0.2963484 total: 1.24s remaining: 258ms
828: learn: 0.2963082 total: 1.24s remaining: 257ms
829: learn: 0.2961622 total: 1.25s remaining: 255ms
830: learn: 0.2959662 total: 1.25s remaining: 254ms
831: learn: 0.2958698 total: 1.25s remaining: 252ms
832: learn: 0.2957192 total: 1.25s remaining: 251ms
833: learn: 0.2955970 total: 1.25s remaining: 250ms
834: learn: 0.2955525 total: 1.26s remaining: 248ms
835: learn: 0.2954513 total: 1.26s remaining: 247ms
836: learn: 0.2953898 total: 1.26s remaining: 245ms
837: learn: 0.2952918 total: 1.26s remaining: 244ms
838: learn: 0.2951532 total: 1.26s remaining: 242ms
839: learn: 0.2950932 total: 1.26s remaining: 241ms
840: learn: 0.2950442 total: 1.27s remaining: 239ms
841: learn: 0.2949691 total: 1.27s remaining: 238ms
842: learn: 0.2948453 total: 1.27s remaining: 237ms
843: learn: 0.2948188 total: 1.27s remaining: 235ms
844: learn: 0.2947094 total: 1.27s remaining: 234ms
845: learn: 0.2946735 total: 1.27s remaining: 232ms
846: learn: 0.2944904 total: 1.27s remaining: 230ms
847: learn: 0.2944480 total: 1.28s remaining: 229ms
848: learn: 0.2942538 total: 1.28s remaining: 227ms
849: learn: 0.2941190 total: 1.28s remaining: 226ms
850: learn: 0.2940277 total: 1.28s remaining: 224ms
851: learn: 0.2938935 total: 1.28s remaining: 223ms
852: learn: 0.2938331 total: 1.29s remaining: 222ms
853: learn: 0.2937668 total: 1.29s remaining: 220ms
854: learn: 0.2937508 total: 1.29s remaining: 219ms
855: learn: 0.2935904 total: 1.29s remaining: 217ms
856: learn: 0.2934469 total: 1.29s remaining: 216ms
857: learn: 0.2933149 total: 1.29s remaining: 214ms
858: learn: 0.2932553 total: 1.3s remaining: 213ms
859: learn: 0.2932173 total: 1.3s remaining: 211ms
860: learn: 0.2930670 total: 1.3s remaining: 210ms
861: learn: 0.2929893 total: 1.3s remaining: 208ms
862: learn: 0.2929494 total: 1.3s remaining: 207ms
863: learn: 0.2929283 total: 1.3s remaining: 205ms
864: learn: 0.2928684 total: 1.31s remaining: 204ms
865: learn: 0.2926937 total: 1.31s remaining: 202ms
866: learn: 0.2926321 total: 1.31s remaining: 201ms
867: learn: 0.2926168 total: 1.31s remaining: 199ms
868: learn: 0.2924939 total: 1.31s remaining: 198ms
869: learn: 0.2923966 total: 1.31s remaining: 196ms
870: learn: 0.2922458 total: 1.31s remaining: 195ms
871: learn: 0.2921728 total: 1.31s remaining: 193ms
872: learn: 0.2921391 total: 1.32s remaining: 192ms
873: learn: 0.2920296 total: 1.32s remaining: 190ms
874: learn: 0.2919852 total: 1.32s remaining: 189ms
875: learn: 0.2918947 total: 1.32s remaining: 187ms
876: learn: 0.2917939 total: 1.32s remaining: 186ms
877: learn: 0.2917327 total: 1.32s remaining: 184ms
878: learn: 0.2916175 total: 1.33s remaining: 183ms
879: learn: 0.2915256 total: 1.33s remaining: 181ms
880: learn: 0.2914363 total: 1.33s remaining: 180ms
881: learn: 0.2913946 total: 1.33s remaining: 178ms
882: learn: 0.2912607 total: 1.33s remaining: 177ms
883: learn: 0.2910802 total: 1.33s remaining: 175ms
884: learn: 0.2908745 total: 1.34s remaining: 174ms
885: learn: 0.2908222 total: 1.34s remaining: 172ms
886: learn: 0.2907523 total: 1.34s remaining: 171ms
887: learn: 0.2906952 total: 1.34s remaining: 169ms
888: learn: 0.2905846 total: 1.34s remaining: 168ms
889: learn: 0.2904988 total: 1.35s remaining: 166ms
890: ----- 0.2904477 +----- 1.35s ----- 165ms
```

```
890: learn: 0.290444 total: 1.35s remaining: 160ms
891: learn: 0.2904087 total: 1.35s remaining: 163ms
892: learn: 0.2902233 total: 1.35s remaining: 162ms
893: learn: 0.2901683 total: 1.35s remaining: 160ms
894: learn: 0.2900743 total: 1.35s remaining: 159ms
895: learn: 0.2900244 total: 1.36s remaining: 157ms
896: learn: 0.2899848 total: 1.36s remaining: 156ms
897: learn: 0.2899228 total: 1.36s remaining: 154ms
898: learn: 0.2898580 total: 1.36s remaining: 153ms
899: learn: 0.2898256 total: 1.36s remaining: 151ms
900: learn: 0.2897648 total: 1.36s remaining: 150ms
901: learn: 0.2897234 total: 1.37s remaining: 148ms
902: learn: 0.2895791 total: 1.37s remaining: 147ms
903: learn: 0.2895279 total: 1.37s remaining: 145ms
904: learn: 0.2893212 total: 1.37s remaining: 144ms
905: learn: 0.2892788 total: 1.37s remaining: 142ms
906: learn: 0.2892550 total: 1.37s remaining: 141ms
907: learn: 0.2891745 total: 1.38s remaining: 139ms
908: learn: 0.2891331 total: 1.38s remaining: 138ms
909: learn: 0.2890255 total: 1.38s remaining: 136ms
910: learn: 0.2889269 total: 1.38s remaining: 135ms
911: learn: 0.2888795 total: 1.38s remaining: 134ms
912: learn: 0.2887919 total: 1.39s remaining: 132ms
913: learn: 0.2887043 total: 1.39s remaining: 131ms
914: learn: 0.2886470 total: 1.39s remaining: 129ms
915: learn: 0.2885852 total: 1.39s remaining: 128ms
916: learn: 0.2884671 total: 1.39s remaining: 126ms
917: learn: 0.2884255 total: 1.39s remaining: 125ms
918: learn: 0.2883287 total: 1.4s remaining: 123ms
919: learn: 0.2881742 total: 1.4s remaining: 122ms
920: learn: 0.2880698 total: 1.4s remaining: 120ms
921: learn: 0.2880249 total: 1.4s remaining: 119ms
922: learn: 0.2878405 total: 1.4s remaining: 117ms
923: learn: 0.2876034 total: 1.4s remaining: 115ms
924: learn: 0.2874412 total: 1.41s remaining: 114ms
925: learn: 0.2873574 total: 1.41s remaining: 112ms
926: learn: 0.2873126 total: 1.41s remaining: 111ms
927: learn: 0.2872236 total: 1.41s remaining: 109ms
928: learn: 0.2871712 total: 1.41s remaining: 108ms
929: learn: 0.2871467 total: 1.41s remaining: 106ms
930: learn: 0.2868042 total: 1.41s remaining: 105ms
931: learn: 0.2867723 total: 1.42s remaining: 103ms
932: learn: 0.2867100 total: 1.42s remaining: 102ms
933: learn: 0.2865136 total: 1.42s remaining: 100ms
934: learn: 0.2863650 total: 1.42s remaining: 98.7ms
935: learn: 0.2863036 total: 1.42s remaining: 97.1ms
936: learn: 0.2861177 total: 1.42s remaining: 95.6ms
937: learn: 0.2860613 total: 1.42s remaining: 94.1ms
938: learn: 0.2859212 total: 1.42s remaining: 92.5ms
939: learn: 0.2857834 total: 1.43s remaining: 91ms
940: learn: 0.2857225 total: 1.43s remaining: 89.5ms
941: learn: 0.2854482 total: 1.43s remaining: 87.9ms
942: learn: 0.2853694 total: 1.43s remaining: 86.4ms
943: learn: 0.2852942 total: 1.43s remaining: 85ms
944: learn: 0.2852140 total: 1.43s remaining: 83.5ms
945: learn: 0.2851066 total: 1.44s remaining: 81.9ms
946: learn: 0.2849074 total: 1.44s remaining: 80.5ms
947: learn: 0.2847520 total: 1.44s remaining: 79ms
948: learn: 0.2846852 total: 1.44s remaining: 77.5ms
949: learn: 0.2846367 total: 1.44s remaining: 76ms
950: learn: 0.2845546 total: 1.44s remaining: 74.4ms
951: learn: 0.2844788 total: 1.45s remaining: 72.9ms
952: learn: 0.2843056 total: 1.45s remaining: 71.4ms
953: learn: 0.2842155 total: 1.45s remaining: 69.9ms
954: learn: 0.2841214 total: 1.45s remaining: 68.4ms
955: learn: 0.2840876 total: 1.45s remaining: 66.9ms
956: learn: 0.2838532 total: 1.45s remaining: 65.3ms
957: learn: 0.2837543 total: 1.46s remaining: 63.8ms
958: learn: 0.2837030 total: 1.46s remaining: 62.3ms
959: learn: 0.2835953 total: 1.46s remaining: 60.8ms
960: learn: 0.2835261 total: 1.46s remaining: 59.2ms
961: learn: 0.2833405 total: 1.46s remaining: 57.7ms
962: learn: 0.2831547 total: 1.46s remaining: 56.2ms
```

```
902: learn: 0.2832501 total: 1.40s remaining: 50.7ms
963: learn: 0.2830934 total: 1.46s remaining: 54.7ms
964: learn: 0.2830666 total: 1.46s remaining: 53.1ms
965: learn: 0.2829776 total: 1.47s remaining: 51.6ms
966: learn: 0.2829546 total: 1.47s remaining: 50.1ms
967: learn: 0.2828191 total: 1.47s remaining: 48.6ms
968: learn: 0.2827603 total: 1.47s remaining: 47ms
969: learn: 0.2827374 total: 1.47s remaining: 45.5ms
970: learn: 0.2826834 total: 1.47s remaining: 44ms
971: learn: 0.2826231 total: 1.47s remaining: 42.5ms
972: learn: 0.2825228 total: 1.48s remaining: 41ms
973: learn: 0.2824184 total: 1.48s remaining: 39.5ms
974: learn: 0.2823403 total: 1.48s remaining: 38ms
975: learn: 0.2823246 total: 1.48s remaining: 36.4ms
976: learn: 0.2821549 total: 1.48s remaining: 34.9ms
977: learn: 0.2820771 total: 1.49s remaining: 33.4ms
978: learn: 0.2820127 total: 1.49s remaining: 31.9ms
979: learn: 0.2819544 total: 1.49s remaining: 30.4ms
980: learn: 0.2818645 total: 1.49s remaining: 28.9ms
981: learn: 0.2818258 total: 1.49s remaining: 27.4ms
982: learn: 0.2817772 total: 1.5s remaining: 25.9ms
983: learn: 0.2817285 total: 1.5s remaining: 24.3ms
984: learn: 0.2816921 total: 1.5s remaining: 22.8ms
985: learn: 0.2816313 total: 1.5s remaining: 21.3ms
986: learn: 0.2815814 total: 1.5s remaining: 19.8ms
987: learn: 0.2814146 total: 1.5s remaining: 18.3ms
988: learn: 0.2813165 total: 1.5s remaining: 16.7ms
989: learn: 0.2812160 total: 1.51s remaining: 15.2ms
990: learn: 0.2811625 total: 1.51s remaining: 13.7ms
991: learn: 0.2811167 total: 1.51s remaining: 12.2ms
992: learn: 0.2808898 total: 1.51s remaining: 10.7ms
993: learn: 0.2808451 total: 1.51s remaining: 9.13ms
994: learn: 0.2807924 total: 1.51s remaining: 7.61ms
995: learn: 0.2806391 total: 1.51s remaining: 6.09ms
996: learn: 0.2805538 total: 1.52s remaining: 4.57ms
997: learn: 0.2804488 total: 1.52s remaining: 3.04ms
998: learn: 0.2803980 total: 1.52s remaining: 1.52ms
999: learn: 0.2803647 total: 1.52s remaining: 0us
```

Learning rate set to 0.009376

```
0: learn: 0.6866195 total: 1.95ms remaining: 1.94s
1: learn: 0.6830486 total: 2.95ms remaining: 1.47s
2: learn: 0.6790198 total: 4.04ms remaining: 1.34s
3: learn: 0.6726807 total: 5.67ms remaining: 1.41s
4: learn: 0.6673342 total: 7.28ms remaining: 1.45s
5: learn: 0.6622718 total: 8.37ms remaining: 1.39s
6: learn: 0.6562079 total: 9.68ms remaining: 1.37s
7: learn: 0.6511429 total: 10.8ms remaining: 1.34s
8: learn: 0.6455573 total: 12.1ms remaining: 1.33s
9: learn: 0.6401726 total: 13.3ms remaining: 1.32s
10: learn: 0.6346298 total: 14.8ms remaining: 1.33s
11: learn: 0.6292118 total: 16.4ms remaining: 1.35s
12: learn: 0.6239073 total: 18ms remaining: 1.37s
13: learn: 0.6202443 total: 18.9ms remaining: 1.33s
14: learn: 0.6159690 total: 20.3ms remaining: 1.33s
15: learn: 0.6117906 total: 21.3ms remaining: 1.31s
16: learn: 0.6072605 total: 22.8ms remaining: 1.32s
17: learn: 0.6030086 total: 24.7ms remaining: 1.35s
18: learn: 0.5986898 total: 26.5ms remaining: 1.36s
19: learn: 0.5949173 total: 27.3ms remaining: 1.34s
20: learn: 0.5902145 total: 28.4ms remaining: 1.32s
21: learn: 0.5861836 total: 30.6ms remaining: 1.36s
22: learn: 0.5816903 total: 34.5ms remaining: 1.46s
23: learn: 0.5776044 total: 37.4ms remaining: 1.52s
24: learn: 0.5745750 total: 39.2ms remaining: 1.53s
25: learn: 0.5707212 total: 41.3ms remaining: 1.55s
26: learn: 0.5668505 total: 44.1ms remaining: 1.59s
27: learn: 0.5636220 total: 45.8ms remaining: 1.59s
28: learn: 0.5605202 total: 47.3ms remaining: 1.58s
29: learn: 0.5572274 total: 49.2ms remaining: 1.59s
30: learn: 0.5534219 total: 50.7ms remaining: 1.58s
31: learn: 0.5508176 total: 52.7ms remaining: 1.59s
32: learn: 0.5469576 total: 54.6ms remaining: 1.6s
33: learn: 0.5442240 total: 56.5ms remaining: 1.6s
```

55: learn: 0.5442549 total: 56.5ms remaining: 1.0s
34: learn: 0.5407492 total: 57.9ms remaining: 1.6s
35: learn: 0.5390379 total: 59.2ms remaining: 1.58s
36: learn: 0.5363508 total: 61ms remaining: 1.59s
37: learn: 0.5331841 total: 62.9ms remaining: 1.59s
38: learn: 0.5305444 total: 64.5ms remaining: 1.59s
39: learn: 0.5274137 total: 66.6ms remaining: 1.6s
40: learn: 0.5250797 total: 68.4ms remaining: 1.6s
41: learn: 0.5219638 total: 70ms remaining: 1.6s
42: learn: 0.5194657 total: 71.4ms remaining: 1.59s
43: learn: 0.5163512 total: 73.4ms remaining: 1.59s
44: learn: 0.5136489 total: 74.8ms remaining: 1.59s
45: learn: 0.5112090 total: 76.5ms remaining: 1.59s
46: learn: 0.5090447 total: 77.9ms remaining: 1.58s
47: learn: 0.5066542 total: 79.6ms remaining: 1.58s
48: learn: 0.5042396 total: 81.3ms remaining: 1.58s
49: learn: 0.5014840 total: 83.2ms remaining: 1.58s
50: learn: 0.4991239 total: 84.6ms remaining: 1.57s
51: learn: 0.4968267 total: 85.9ms remaining: 1.57s
52: learn: 0.4944760 total: 87.3ms remaining: 1.56s
53: learn: 0.4926598 total: 89.1ms remaining: 1.56s
54: learn: 0.4906845 total: 90.5ms remaining: 1.55s
55: learn: 0.4886203 total: 91.7ms remaining: 1.55s
56: learn: 0.4863561 total: 92.9ms remaining: 1.54s
57: learn: 0.4844396 total: 94.4ms remaining: 1.53s
58: learn: 0.4828541 total: 96.2ms remaining: 1.53s
59: learn: 0.4807827 total: 97.5ms remaining: 1.53s
60: learn: 0.4786320 total: 98.8ms remaining: 1.52s
61: learn: 0.4766017 total: 100ms remaining: 1.51s
62: learn: 0.4752043 total: 101ms remaining: 1.5s
63: learn: 0.4732939 total: 102ms remaining: 1.5s
64: learn: 0.4712579 total: 104ms remaining: 1.49s
65: learn: 0.4701459 total: 104ms remaining: 1.48s
66: learn: 0.4688124 total: 105ms remaining: 1.47s
67: learn: 0.4675851 total: 106ms remaining: 1.46s
68: learn: 0.4659997 total: 108ms remaining: 1.46s
69: learn: 0.4643915 total: 109ms remaining: 1.45s
70: learn: 0.4636483 total: 110ms remaining: 1.44s
71: learn: 0.4619727 total: 111ms remaining: 1.44s
72: learn: 0.4612334 total: 112ms remaining: 1.42s
73: learn: 0.4596519 total: 114ms remaining: 1.42s
74: learn: 0.4580303 total: 116ms remaining: 1.43s
75: learn: 0.4565637 total: 117ms remaining: 1.42s
76: learn: 0.4550649 total: 119ms remaining: 1.43s
77: learn: 0.4537454 total: 121ms remaining: 1.43s
78: learn: 0.4525944 total: 123ms remaining: 1.43s
79: learn: 0.4513680 total: 124ms remaining: 1.43s
80: learn: 0.4499834 total: 126ms remaining: 1.43s
81: learn: 0.4487019 total: 127ms remaining: 1.43s
82: learn: 0.4477756 total: 129ms remaining: 1.42s
83: learn: 0.4465022 total: 130ms remaining: 1.42s
84: learn: 0.4450125 total: 131ms remaining: 1.42s
85: learn: 0.4437548 total: 133ms remaining: 1.41s
86: learn: 0.4427139 total: 134ms remaining: 1.41s
87: learn: 0.4416254 total: 136ms remaining: 1.41s
88: learn: 0.4407398 total: 137ms remaining: 1.4s
89: learn: 0.4395053 total: 138ms remaining: 1.4s
90: learn: 0.4386348 total: 140ms remaining: 1.39s
91: learn: 0.4379634 total: 140ms remaining: 1.38s
92: learn: 0.4368290 total: 141ms remaining: 1.38s
93: learn: 0.4357694 total: 143ms remaining: 1.38s
94: learn: 0.4348580 total: 144ms remaining: 1.37s
95: learn: 0.4340231 total: 146ms remaining: 1.37s
96: learn: 0.4329852 total: 147ms remaining: 1.37s
97: learn: 0.4316905 total: 148ms remaining: 1.36s
98: learn: 0.4307818 total: 149ms remaining: 1.36s
99: learn: 0.4296849 total: 151ms remaining: 1.36s
100: learn: 0.4289341 total: 152ms remaining: 1.36s
101: learn: 0.4279646 total: 154ms remaining: 1.35s
102: learn: 0.4271457 total: 155ms remaining: 1.35s
103: learn: 0.4262326 total: 157ms remaining: 1.35s
104: learn: 0.4252200 total: 159ms remaining: 1.35s
105: learn: 0.4242074 total: 161ms remaining: 1.35s

```
105: learn: 0.4244960 total: 105ms remaining: 1.37s
106: learn: 0.4236691 total: 164ms remaining: 1.37s
107: learn: 0.4228224 total: 166ms remaining: 1.37s
108: learn: 0.4221034 total: 167ms remaining: 1.36s
109: learn: 0.4209925 total: 169ms remaining: 1.36s
110: learn: 0.4200801 total: 170ms remaining: 1.36s
111: learn: 0.4199587 total: 171ms remaining: 1.35s
112: learn: 0.4192668 total: 172ms remaining: 1.35s
113: learn: 0.4183431 total: 173ms remaining: 1.35s
114: learn: 0.4173795 total: 175ms remaining: 1.35s
115: learn: 0.4169132 total: 176ms remaining: 1.34s
116: learn: 0.4163967 total: 178ms remaining: 1.34s
117: learn: 0.4154140 total: 179ms remaining: 1.34s
118: learn: 0.4145678 total: 181ms remaining: 1.34s
119: learn: 0.4143107 total: 182ms remaining: 1.33s
120: learn: 0.4135496 total: 183ms remaining: 1.33s
121: learn: 0.4128062 total: 185ms remaining: 1.33s
122: learn: 0.4126958 total: 186ms remaining: 1.32s
123: learn: 0.4120971 total: 187ms remaining: 1.32s
124: learn: 0.4115527 total: 189ms remaining: 1.32s
125: learn: 0.4110694 total: 190ms remaining: 1.31s
126: learn: 0.4102904 total: 191ms remaining: 1.31s
127: learn: 0.4097802 total: 193ms remaining: 1.31s
128: learn: 0.4092013 total: 194ms remaining: 1.31s
129: learn: 0.4088846 total: 195ms remaining: 1.31s
130: learn: 0.4082062 total: 197ms remaining: 1.31s
131: learn: 0.4075754 total: 198ms remaining: 1.3s
132: learn: 0.4070450 total: 200ms remaining: 1.3s
133: learn: 0.4065437 total: 202ms remaining: 1.3s
134: learn: 0.4059541 total: 204ms remaining: 1.3s
135: learn: 0.4054952 total: 206ms remaining: 1.31s
136: learn: 0.4054271 total: 207ms remaining: 1.3s
137: learn: 0.4048718 total: 209ms remaining: 1.3s
138: learn: 0.4042364 total: 211ms remaining: 1.31s
139: learn: 0.4038379 total: 213ms remaining: 1.31s
140: learn: 0.4032558 total: 214ms remaining: 1.3s
141: learn: 0.4026401 total: 216ms remaining: 1.3s
142: learn: 0.4020033 total: 217ms remaining: 1.3s
143: learn: 0.4014755 total: 219ms remaining: 1.3s
144: learn: 0.4013256 total: 220ms remaining: 1.3s
145: learn: 0.4005641 total: 221ms remaining: 1.29s
146: learn: 0.4003015 total: 223ms remaining: 1.29s
147: learn: 0.4000010 total: 225ms remaining: 1.29s
148: learn: 0.3995228 total: 227ms remaining: 1.29s
149: learn: 0.3990489 total: 228ms remaining: 1.29s
150: learn: 0.3985094 total: 230ms remaining: 1.29s
151: learn: 0.3978033 total: 232ms remaining: 1.29s
152: learn: 0.3976494 total: 233ms remaining: 1.29s
153: learn: 0.3972909 total: 234ms remaining: 1.29s
154: learn: 0.3966713 total: 236ms remaining: 1.28s
155: learn: 0.39655564 total: 236ms remaining: 1.28s
156: learn: 0.3963035 total: 238ms remaining: 1.28s
157: learn: 0.3961756 total: 239ms remaining: 1.27s
158: learn: 0.3957698 total: 240ms remaining: 1.27s
159: learn: 0.3951069 total: 242ms remaining: 1.27s
160: learn: 0.3945967 total: 245ms remaining: 1.27s
161: learn: 0.3941427 total: 246ms remaining: 1.27s
162: learn: 0.3939123 total: 248ms remaining: 1.27s
163: learn: 0.3934175 total: 249ms remaining: 1.27s
164: learn: 0.3927296 total: 252ms remaining: 1.27s
165: learn: 0.3922757 total: 254ms remaining: 1.28s
166: learn: 0.3920153 total: 256ms remaining: 1.27s
167: learn: 0.3915777 total: 257ms remaining: 1.27s
168: learn: 0.3911573 total: 259ms remaining: 1.27s
169: learn: 0.3906534 total: 260ms remaining: 1.27s
170: learn: 0.3901787 total: 262ms remaining: 1.27s
171: learn: 0.3898649 total: 264ms remaining: 1.27s
172: learn: 0.3892792 total: 265ms remaining: 1.27s
173: learn: 0.3889433 total: 266ms remaining: 1.26s
174: learn: 0.3886791 total: 267ms remaining: 1.26s
175: learn: 0.3882002 total: 269ms remaining: 1.26s
176: learn: 0.3877696 total: 271ms remaining: 1.26s
177: ----- 0.3872100 +----- 272ms ----- 1.26s
```

```
1//: learn: 0.3815180 total: 271ms remaining: 1.20s
178: learn: 0.3870090 total: 273ms remaining: 1.25s
179: learn: 0.3867099 total: 275ms remaining: 1.25s
180: learn: 0.3863518 total: 276ms remaining: 1.25s
181: learn: 0.3860285 total: 277ms remaining: 1.25s
182: learn: 0.3856154 total: 279ms remaining: 1.25s
183: learn: 0.3853428 total: 280ms remaining: 1.24s
184: learn: 0.3850039 total: 282ms remaining: 1.24s
185: learn: 0.3847611 total: 284ms remaining: 1.24s
186: learn: 0.3845960 total: 286ms remaining: 1.24s
187: learn: 0.3843182 total: 287ms remaining: 1.24s
188: learn: 0.3839244 total: 288ms remaining: 1.24s
189: learn: 0.3835315 total: 289ms remaining: 1.23s
190: learn: 0.3830899 total: 291ms remaining: 1.23s
191: learn: 0.3826825 total: 292ms remaining: 1.23s
192: learn: 0.3822411 total: 293ms remaining: 1.23s
193: learn: 0.3818710 total: 295ms remaining: 1.23s
194: learn: 0.3814525 total: 296ms remaining: 1.22s
195: learn: 0.3811391 total: 298ms remaining: 1.22s
196: learn: 0.3807894 total: 299ms remaining: 1.22s
197: learn: 0.3805618 total: 301ms remaining: 1.22s
198: learn: 0.3802566 total: 304ms remaining: 1.22s
199: learn: 0.3798589 total: 305ms remaining: 1.22s
200: learn: 0.3796703 total: 307ms remaining: 1.22s
201: learn: 0.3792657 total: 309ms remaining: 1.22s
202: learn: 0.3790588 total: 310ms remaining: 1.22s
203: learn: 0.3789467 total: 311ms remaining: 1.21s
204: learn: 0.3785577 total: 312ms remaining: 1.21s
205: learn: 0.3780912 total: 314ms remaining: 1.21s
206: learn: 0.3778499 total: 315ms remaining: 1.21s
207: learn: 0.3774396 total: 316ms remaining: 1.2s
208: learn: 0.3771521 total: 318ms remaining: 1.2s
209: learn: 0.3769198 total: 319ms remaining: 1.2s
210: learn: 0.3765553 total: 321ms remaining: 1.2s
211: learn: 0.3762595 total: 322ms remaining: 1.2s
212: learn: 0.3759232 total: 323ms remaining: 1.19s
213: learn: 0.3758720 total: 324ms remaining: 1.19s
214: learn: 0.3755856 total: 326ms remaining: 1.19s
215: learn: 0.3754800 total: 327ms remaining: 1.19s
216: learn: 0.3752873 total: 328ms remaining: 1.18s
217: learn: 0.3750526 total: 330ms remaining: 1.18s
218: learn: 0.3746615 total: 332ms remaining: 1.18s
219: learn: 0.3744555 total: 333ms remaining: 1.18s
220: learn: 0.3742597 total: 335ms remaining: 1.18s
221: learn: 0.3741008 total: 336ms remaining: 1.18s
222: learn: 0.3737706 total: 337ms remaining: 1.17s
223: learn: 0.3734999 total: 338ms remaining: 1.17s
224: learn: 0.3733105 total: 340ms remaining: 1.17s
225: learn: 0.3731487 total: 341ms remaining: 1.17s
226: learn: 0.3729382 total: 342ms remaining: 1.17s
227: learn: 0.3727559 total: 343ms remaining: 1.16s
228: learn: 0.3724205 total: 345ms remaining: 1.16s
229: learn: 0.3722317 total: 346ms remaining: 1.16s
230: learn: 0.3720316 total: 347ms remaining: 1.16s
231: learn: 0.3718068 total: 349ms remaining: 1.16s
232: learn: 0.3716394 total: 350ms remaining: 1.15s
233: learn: 0.3714879 total: 352ms remaining: 1.15s
234: learn: 0.3712652 total: 353ms remaining: 1.15s
235: learn: 0.3709596 total: 355ms remaining: 1.15s
236: learn: 0.3707661 total: 357ms remaining: 1.15s
237: learn: 0.3706753 total: 358ms remaining: 1.15s
238: learn: 0.3703554 total: 361ms remaining: 1.15s
239: learn: 0.3700409 total: 362ms remaining: 1.15s
240: learn: 0.3697066 total: 364ms remaining: 1.14s
241: learn: 0.3695153 total: 365ms remaining: 1.14s
242: learn: 0.3691312 total: 367ms remaining: 1.14s
243: learn: 0.3689191 total: 368ms remaining: 1.14s
244: learn: 0.3686384 total: 370ms remaining: 1.14s
245: learn: 0.3684383 total: 371ms remaining: 1.14s
246: learn: 0.3682742 total: 373ms remaining: 1.14s
247: learn: 0.3679306 total: 375ms remaining: 1.14s
248: learn: 0.3676715 total: 378ms remaining: 1.14s
249: ----- 0.3675000 +----- 200ms ----- 1.14s
```

```
249: learn: 0.3615290 total: 389ms remaining: 1.14s
250: learn: 0.3671165 total: 383ms remaining: 1.14s
251: learn: 0.3668595 total: 386ms remaining: 1.14s
252: learn: 0.3666970 total: 388ms remaining: 1.15s
253: learn: 0.3664500 total: 390ms remaining: 1.15s
254: learn: 0.3661544 total: 392ms remaining: 1.14s
255: learn: 0.3657782 total: 393ms remaining: 1.14s
256: learn: 0.3654276 total: 394ms remaining: 1.14s
257: learn: 0.3652367 total: 395ms remaining: 1.14s
258: learn: 0.3650510 total: 397ms remaining: 1.13s
259: learn: 0.3648333 total: 398ms remaining: 1.13s
260: learn: 0.3646737 total: 399ms remaining: 1.13s
261: learn: 0.3644343 total: 400ms remaining: 1.13s
262: learn: 0.3642339 total: 401ms remaining: 1.12s
263: learn: 0.3640813 total: 403ms remaining: 1.12s
264: learn: 0.3639111 total: 404ms remaining: 1.12s
265: learn: 0.3635973 total: 406ms remaining: 1.12s
266: learn: 0.3633802 total: 407ms remaining: 1.12s
267: learn: 0.3632228 total: 409ms remaining: 1.12s
268: learn: 0.3629278 total: 411ms remaining: 1.11s
269: learn: 0.3625939 total: 412ms remaining: 1.11s
270: learn: 0.3623259 total: 414ms remaining: 1.11s
271: learn: 0.3620510 total: 416ms remaining: 1.11s
272: learn: 0.3617372 total: 417ms remaining: 1.11s
273: learn: 0.3615327 total: 419ms remaining: 1.11s
274: learn: 0.3613311 total: 421ms remaining: 1.11s
275: learn: 0.3611464 total: 422ms remaining: 1.11s
276: learn: 0.3610044 total: 424ms remaining: 1.11s
277: learn: 0.3605678 total: 426ms remaining: 1.1s
278: learn: 0.3603746 total: 428ms remaining: 1.1s
279: learn: 0.3600480 total: 429ms remaining: 1.1s
280: learn: 0.3598359 total: 431ms remaining: 1.1s
281: learn: 0.3597060 total: 434ms remaining: 1.1s
282: learn: 0.3595685 total: 436ms remaining: 1.1s
283: learn: 0.3593609 total: 438ms remaining: 1.1s
284: learn: 0.3591541 total: 441ms remaining: 1.11s
285: learn: 0.3590056 total: 443ms remaining: 1.1s
286: learn: 0.3588499 total: 444ms remaining: 1.1s
287: learn: 0.3586139 total: 445ms remaining: 1.1s
288: learn: 0.3583894 total: 446ms remaining: 1.1s
289: learn: 0.3582225 total: 448ms remaining: 1.1s
290: learn: 0.3580020 total: 450ms remaining: 1.09s
291: learn: 0.3579349 total: 451ms remaining: 1.09s
292: learn: 0.3578378 total: 452ms remaining: 1.09s
293: learn: 0.3576967 total: 453ms remaining: 1.09s
294: learn: 0.3574916 total: 455ms remaining: 1.09s
295: learn: 0.3572732 total: 456ms remaining: 1.08s
296: learn: 0.3571019 total: 458ms remaining: 1.08s
297: learn: 0.3570283 total: 459ms remaining: 1.08s
298: learn: 0.3566709 total: 461ms remaining: 1.08s
299: learn: 0.3565648 total: 463ms remaining: 1.08s
300: learn: 0.3564510 total: 465ms remaining: 1.08s
301: learn: 0.3562912 total: 466ms remaining: 1.08s
302: learn: 0.3562210 total: 468ms remaining: 1.08s
303: learn: 0.3560909 total: 470ms remaining: 1.07s
304: learn: 0.3559267 total: 472ms remaining: 1.07s
305: learn: 0.3557206 total: 473ms remaining: 1.07s
306: learn: 0.3554435 total: 476ms remaining: 1.07s
307: learn: 0.3551846 total: 477ms remaining: 1.07s
308: learn: 0.3549816 total: 480ms remaining: 1.07s
309: learn: 0.3548369 total: 482ms remaining: 1.07s
310: learn: 0.3547044 total: 484ms remaining: 1.07s
311: learn: 0.3545818 total: 485ms remaining: 1.07s
312: learn: 0.3544547 total: 487ms remaining: 1.07s
313: learn: 0.3543028 total: 489ms remaining: 1.07s
314: learn: 0.3540673 total: 491ms remaining: 1.07s
315: learn: 0.3538790 total: 493ms remaining: 1.07s
316: learn: 0.3538015 total: 495ms remaining: 1.06s
317: learn: 0.3536947 total: 496ms remaining: 1.06s
318: learn: 0.3534338 total: 498ms remaining: 1.06s
319: learn: 0.3532377 total: 500ms remaining: 1.06s
320: learn: 0.3530746 total: 502ms remaining: 1.06s
321: ---- 0.3530650 +----- 502ms ----- 1.06s
```

```
321: learn: 0.35280650 total: 505ms remaining: 1.00s
322: learn: 0.3526113 total: 505ms remaining: 1.06s
323: learn: 0.3525236 total: 507ms remaining: 1.06s
324: learn: 0.3523055 total: 509ms remaining: 1.06s
325: learn: 0.3521193 total: 510ms remaining: 1.05s
326: learn: 0.3520217 total: 512ms remaining: 1.05s
327: learn: 0.3518653 total: 513ms remaining: 1.05s
328: learn: 0.3517869 total: 515ms remaining: 1.05s
329: learn: 0.3516676 total: 516ms remaining: 1.05s
330: learn: 0.3515773 total: 517ms remaining: 1.04s
331: learn: 0.3515434 total: 518ms remaining: 1.04s
332: learn: 0.3514155 total: 520ms remaining: 1.04s
333: learn: 0.3511603 total: 522ms remaining: 1.04s
334: learn: 0.3509649 total: 523ms remaining: 1.04s
335: learn: 0.3508010 total: 524ms remaining: 1.03s
336: learn: 0.3506562 total: 525ms remaining: 1.03s
337: learn: 0.3505436 total: 528ms remaining: 1.03s
338: learn: 0.3505283 total: 529ms remaining: 1.03s
339: learn: 0.3504963 total: 530ms remaining: 1.03s
340: learn: 0.3504323 total: 532ms remaining: 1.03s
341: learn: 0.3503521 total: 534ms remaining: 1.03s
342: learn: 0.3502290 total: 536ms remaining: 1.03s
343: learn: 0.3500899 total: 538ms remaining: 1.02s
344: learn: 0.3500037 total: 539ms remaining: 1.02s
345: learn: 0.3499585 total: 541ms remaining: 1.02s
346: learn: 0.3498504 total: 542ms remaining: 1.02s
347: learn: 0.3495531 total: 544ms remaining: 1.02s
348: learn: 0.3494012 total: 545ms remaining: 1.02s
349: learn: 0.3493244 total: 548ms remaining: 1.02s
350: learn: 0.3491017 total: 549ms remaining: 1.01s
351: learn: 0.3489872 total: 551ms remaining: 1.01s
352: learn: 0.3488640 total: 553ms remaining: 1.01s
353: learn: 0.3487838 total: 555ms remaining: 1.01s
354: learn: 0.3487000 total: 556ms remaining: 1.01s
355: learn: 0.3485754 total: 559ms remaining: 1.01s
356: learn: 0.3483778 total: 561ms remaining: 1.01s
357: learn: 0.3483109 total: 563ms remaining: 1.01s
358: learn: 0.3481043 total: 564ms remaining: 1.01s
359: learn: 0.3479791 total: 567ms remaining: 1.01s
360: learn: 0.3478624 total: 569ms remaining: 1.01s
361: learn: 0.3477596 total: 570ms remaining: 1s
362: learn: 0.3476328 total: 572ms remaining: 1s
363: learn: 0.3474500 total: 575ms remaining: 1s
364: learn: 0.3471765 total: 576ms remaining: 1s
365: learn: 0.3471628 total: 577ms remaining: 1s
366: learn: 0.3470111 total: 579ms remaining: 999ms
367: learn: 0.3469046 total: 581ms remaining: 997ms
368: learn: 0.3467796 total: 582ms remaining: 995ms
369: learn: 0.3467054 total: 583ms remaining: 993ms
370: learn: 0.3466005 total: 585ms remaining: 992ms
371: learn: 0.3463755 total: 587ms remaining: 991ms
372: learn: 0.3463215 total: 590ms remaining: 991ms
373: learn: 0.3461886 total: 592ms remaining: 991ms
374: learn: 0.3460849 total: 594ms remaining: 990ms
375: learn: 0.3458169 total: 596ms remaining: 988ms
376: learn: 0.3457156 total: 597ms remaining: 987ms
377: learn: 0.3456155 total: 600ms remaining: 987ms
378: learn: 0.3455084 total: 601ms remaining: 985ms
379: learn: 0.3453629 total: 603ms remaining: 984ms
380: learn: 0.3452187 total: 605ms remaining: 984ms
381: learn: 0.3451706 total: 608ms remaining: 984ms
382: learn: 0.3450837 total: 612ms remaining: 986ms
383: learn: 0.3449871 total: 614ms remaining: 985ms
384: learn: 0.3448549 total: 615ms remaining: 983ms
385: learn: 0.3448001 total: 617ms remaining: 981ms
386: learn: 0.3446738 total: 618ms remaining: 979ms
387: learn: 0.3446460 total: 619ms remaining: 976ms
388: learn: 0.3445243 total: 620ms remaining: 974ms
389: learn: 0.3444175 total: 621ms remaining: 972ms
390: learn: 0.3444060 total: 622ms remaining: 969ms
391: learn: 0.3443265 total: 623ms remaining: 967ms
392: learn: 0.3441212 total: 626ms remaining: 967ms
393: learn: 0.3440000 total: 628ms remaining: 965ms
```

595: learn: 0.3440205 total: 628ms remaining: 960ms
394: learn: 0.3439216 total: 629ms remaining: 963ms
395: learn: 0.3437937 total: 630ms remaining: 961ms
396: learn: 0.3436546 total: 631ms remaining: 959ms
397: learn: 0.3435049 total: 633ms remaining: 957ms
398: learn: 0.3433111 total: 634ms remaining: 955ms
399: learn: 0.3431657 total: 636ms remaining: 954ms
400: learn: 0.3429228 total: 638ms remaining: 953ms
401: learn: 0.3428326 total: 639ms remaining: 951ms
402: learn: 0.3426941 total: 641ms remaining: 949ms
403: learn: 0.3426459 total: 643ms remaining: 948ms
404: learn: 0.3425413 total: 645ms remaining: 947ms
405: learn: 0.3425262 total: 646ms remaining: 945ms
406: learn: 0.3425120 total: 647ms remaining: 942ms
407: learn: 0.3424159 total: 648ms remaining: 940ms
408: learn: 0.3422550 total: 650ms remaining: 939ms
409: learn: 0.3420561 total: 651ms remaining: 936ms
410: learn: 0.3419548 total: 652ms remaining: 935ms
411: learn: 0.3418370 total: 654ms remaining: 933ms
412: learn: 0.3417555 total: 655ms remaining: 932ms
413: learn: 0.3416981 total: 657ms remaining: 930ms
414: learn: 0.3415970 total: 659ms remaining: 929ms
415: learn: 0.3414158 total: 661ms remaining: 927ms
416: learn: 0.3411906 total: 662ms remaining: 926ms
417: learn: 0.3410986 total: 664ms remaining: 924ms
418: learn: 0.3410223 total: 665ms remaining: 922ms
419: learn: 0.3409184 total: 666ms remaining: 920ms
420: learn: 0.3407236 total: 668ms remaining: 918ms
421: learn: 0.3407078 total: 669ms remaining: 916ms
422: learn: 0.3405096 total: 670ms remaining: 914ms
423: learn: 0.3404283 total: 671ms remaining: 912ms
424: learn: 0.3402768 total: 673ms remaining: 910ms
425: learn: 0.3401673 total: 674ms remaining: 908ms
426: learn: 0.3400943 total: 675ms remaining: 906ms
427: learn: 0.3399157 total: 676ms remaining: 904ms
428: learn: 0.3398467 total: 678ms remaining: 902ms
429: learn: 0.3398337 total: 678ms remaining: 899ms
430: learn: 0.3395797 total: 679ms remaining: 897ms
431: learn: 0.3395201 total: 681ms remaining: 896ms
432: learn: 0.3394128 total: 683ms remaining: 895ms
433: learn: 0.3392730 total: 684ms remaining: 893ms
434: learn: 0.3392528 total: 686ms remaining: 891ms
435: learn: 0.3391616 total: 687ms remaining: 889ms
436: learn: 0.3390639 total: 689ms remaining: 888ms
437: learn: 0.3389786 total: 691ms remaining: 886ms
438: learn: 0.3389388 total: 692ms remaining: 884ms
439: learn: 0.3388754 total: 694ms remaining: 883ms
440: learn: 0.3388160 total: 695ms remaining: 881ms
441: learn: 0.3386751 total: 697ms remaining: 879ms
442: learn: 0.3385729 total: 698ms remaining: 878ms
443: learn: 0.3384447 total: 700ms remaining: 876ms
444: learn: 0.3383131 total: 701ms remaining: 875ms
445: learn: 0.3382543 total: 703ms remaining: 873ms
446: learn: 0.3381073 total: 704ms remaining: 871ms
447: learn: 0.3379644 total: 705ms remaining: 869ms
448: learn: 0.3378987 total: 707ms remaining: 867ms
449: learn: 0.3377370 total: 709ms remaining: 866ms
450: learn: 0.3376246 total: 711ms remaining: 865ms
451: learn: 0.3375479 total: 712ms remaining: 863ms
452: learn: 0.3374356 total: 713ms remaining: 862ms
453: learn: 0.3371696 total: 715ms remaining: 860ms
454: learn: 0.3371530 total: 716ms remaining: 858ms
455: learn: 0.3370170 total: 717ms remaining: 856ms
456: learn: 0.3369313 total: 719ms remaining: 854ms
457: learn: 0.3368922 total: 720ms remaining: 852ms
458: learn: 0.3366241 total: 722ms remaining: 851ms
459: learn: 0.3364948 total: 723ms remaining: 849ms
460: learn: 0.3364919 total: 724ms remaining: 847ms
461: learn: 0.3363572 total: 726ms remaining: 845ms
462: learn: 0.3361630 total: 727ms remaining: 843ms
463: learn: 0.3360032 total: 728ms remaining: 841ms
464: learn: 0.3358814 total: 730ms remaining: 840ms
465: learn: 0.3357026 total: 729ms remaining: 839ms

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405: learn: 0.3351220 total: 732ms remaining: 839ms
466: learn: 0.3355630 total: 734ms remaining: 838ms
467: learn: 0.3352944 total: 736ms remaining: 837ms
468: learn: 0.3351191 total: 737ms remaining: 835ms
469: learn: 0.3350071 total: 740ms remaining: 834ms
470: learn: 0.3349483 total: 741ms remaining: 832ms
471: learn: 0.3348247 total: 743ms remaining: 831ms
472: learn: 0.3347742 total: 744ms remaining: 829ms
473: learn: 0.3346789 total: 746ms remaining: 828ms
474: learn: 0.3345774 total: 747ms remaining: 826ms
475: learn: 0.3345224 total: 748ms remaining: 824ms
476: learn: 0.3344729 total: 750ms remaining: 822ms
477: learn: 0.3342863 total: 751ms remaining: 821ms
478: learn: 0.3342071 total: 753ms remaining: 819ms
479: learn: 0.3342061 total: 754ms remaining: 816ms
480: learn: 0.3340796 total: 755ms remaining: 815ms
481: learn: 0.3340752 total: 756ms remaining: 813ms
482: learn: 0.3339139 total: 758ms remaining: 811ms
483: learn: 0.3337726 total: 759ms remaining: 809ms
484: learn: 0.3336883 total: 761ms remaining: 808ms
485: learn: 0.3335789 total: 762ms remaining: 806ms
486: learn: 0.3334370 total: 764ms remaining: 805ms
487: learn: 0.3332971 total: 765ms remaining: 803ms
488: learn: 0.3331559 total: 767ms remaining: 801ms
489: learn: 0.3329981 total: 768ms remaining: 799ms
490: learn: 0.3329450 total: 770ms remaining: 798ms
491: learn: 0.3329159 total: 773ms remaining: 798ms
492: learn: 0.3328135 total: 774ms remaining: 796ms
493: learn: 0.3327285 total: 776ms remaining: 795ms
494: learn: 0.3326645 total: 777ms remaining: 793ms
495: learn: 0.3325003 total: 779ms remaining: 791ms
496: learn: 0.3324850 total: 780ms remaining: 789ms
497: learn: 0.3324210 total: 782ms remaining: 788ms
498: learn: 0.3322653 total: 783ms remaining: 786ms
499: learn: 0.3321162 total: 784ms remaining: 784ms
500: learn: 0.3320162 total: 787ms remaining: 784ms
501: learn: 0.3319293 total: 789ms remaining: 783ms
502: learn: 0.3317505 total: 792ms remaining: 782ms
503: learn: 0.3316376 total: 794ms remaining: 781ms
504: learn: 0.3316295 total: 795ms remaining: 780ms
505: learn: 0.3313938 total: 797ms remaining: 778ms
506: learn: 0.3313168 total: 799ms remaining: 777ms
507: learn: 0.3312279 total: 800ms remaining: 775ms
508: learn: 0.3310120 total: 802ms remaining: 774ms
509: learn: 0.3308662 total: 804ms remaining: 772ms
510: learn: 0.3305525 total: 805ms remaining: 771ms
511: learn: 0.3304625 total: 807ms remaining: 769ms
512: learn: 0.3303507 total: 809ms remaining: 768ms
513: learn: 0.3302794 total: 811ms remaining: 766ms
514: learn: 0.3302463 total: 812ms remaining: 765ms
515: learn: 0.3301367 total: 814ms remaining: 764ms
516: learn: 0.3298643 total: 816ms remaining: 762ms
517: learn: 0.3298586 total: 817ms remaining: 760ms
518: learn: 0.3297262 total: 819ms remaining: 759ms
519: learn: 0.3296972 total: 821ms remaining: 758ms
520: learn: 0.3295858 total: 823ms remaining: 756ms
521: learn: 0.3294480 total: 824ms remaining: 755ms
522: learn: 0.3293228 total: 826ms remaining: 753ms
523: learn: 0.3293031 total: 827ms remaining: 751ms
524: learn: 0.3292131 total: 828ms remaining: 749ms
525: learn: 0.3291158 total: 830ms remaining: 748ms
526: learn: 0.3290173 total: 831ms remaining: 746ms
527: learn: 0.3288350 total: 833ms remaining: 745ms
528: learn: 0.3287469 total: 835ms remaining: 743ms
529: learn: 0.3285374 total: 836ms remaining: 742ms
530: learn: 0.3283814 total: 838ms remaining: 740ms
531: learn: 0.3282747 total: 839ms remaining: 738ms
532: learn: 0.3282501 total: 841ms remaining: 737ms
533: learn: 0.3281433 total: 842ms remaining: 735ms
534: learn: 0.3280306 total: 843ms remaining: 733ms
535: learn: 0.3278879 total: 845ms remaining: 731ms
536: learn: 0.3277870 total: 846ms remaining: 729ms
537: learn: 0.3277145 total: 847ms remaining: 728ms
```

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531: learn: 0.3271145 total: 847ms remaining: 170ms
532: learn: 0.3275306 total: 849ms remaining: 726ms
533: learn: 0.3275305 total: 850ms remaining: 724ms
540: learn: 0.3274680 total: 851ms remaining: 722ms
541: learn: 0.3274258 total: 852ms remaining: 720ms
542: learn: 0.3271847 total: 854ms remaining: 719ms
543: learn: 0.3271456 total: 857ms remaining: 718ms
544: learn: 0.3269760 total: 860ms remaining: 718ms
545: learn: 0.3268874 total: 862ms remaining: 717ms
546: learn: 0.3268094 total: 864ms remaining: 715ms
547: learn: 0.3266395 total: 865ms remaining: 714ms
548: learn: 0.3265359 total: 867ms remaining: 713ms
549: learn: 0.3264781 total: 869ms remaining: 711ms
550: learn: 0.3262615 total: 870ms remaining: 709ms
551: learn: 0.3260501 total: 872ms remaining: 708ms
552: learn: 0.3259359 total: 874ms remaining: 706ms
553: learn: 0.3258632 total: 875ms remaining: 705ms
554: learn: 0.3257700 total: 876ms remaining: 703ms
555: learn: 0.3257540 total: 878ms remaining: 701ms
556: learn: 0.3256894 total: 879ms remaining: 699ms
557: learn: 0.3255900 total: 881ms remaining: 698ms
558: learn: 0.3255025 total: 882ms remaining: 696ms
559: learn: 0.3254100 total: 884ms remaining: 694ms
560: learn: 0.3254050 total: 885ms remaining: 692ms
561: learn: 0.3253914 total: 886ms remaining: 691ms
562: learn: 0.3253352 total: 888ms remaining: 689ms
563: learn: 0.3252664 total: 890ms remaining: 688ms
564: learn: 0.3251637 total: 891ms remaining: 686ms
565: learn: 0.3251211 total: 893ms remaining: 685ms
566: learn: 0.3250151 total: 894ms remaining: 683ms
567: learn: 0.3249096 total: 896ms remaining: 681ms
568: learn: 0.3248082 total: 898ms remaining: 680ms
569: learn: 0.3246733 total: 899ms remaining: 678ms
570: learn: 0.3246154 total: 901ms remaining: 677ms
571: learn: 0.3245196 total: 902ms remaining: 675ms
572: learn: 0.3244366 total: 903ms remaining: 673ms
573: learn: 0.3243011 total: 905ms remaining: 671ms
574: learn: 0.3242547 total: 906ms remaining: 670ms
575: learn: 0.3242296 total: 907ms remaining: 668ms
576: learn: 0.3240833 total: 909ms remaining: 666ms
577: learn: 0.3240053 total: 910ms remaining: 665ms
578: learn: 0.3238878 total: 912ms remaining: 663ms
579: learn: 0.3237529 total: 914ms remaining: 662ms
580: learn: 0.3236458 total: 916ms remaining: 661ms
581: learn: 0.3235333 total: 918ms remaining: 659ms
582: learn: 0.3234297 total: 919ms remaining: 657ms
583: learn: 0.3232812 total: 920ms remaining: 656ms
584: learn: 0.3232256 total: 922ms remaining: 654ms
585: learn: 0.3231351 total: 924ms remaining: 652ms
586: learn: 0.3230974 total: 925ms remaining: 650ms
587: learn: 0.3230454 total: 926ms remaining: 649ms
588: learn: 0.3230137 total: 927ms remaining: 647ms
589: learn: 0.3228901 total: 929ms remaining: 645ms
590: learn: 0.3228568 total: 930ms remaining: 644ms
591: learn: 0.3227793 total: 932ms remaining: 642ms
592: learn: 0.3226644 total: 933ms remaining: 640ms
593: learn: 0.3225506 total: 934ms remaining: 638ms
594: learn: 0.3225085 total: 936ms remaining: 637ms
595: learn: 0.3224608 total: 937ms remaining: 635ms
596: learn: 0.3223198 total: 938ms remaining: 633ms
597: learn: 0.3221466 total: 939ms remaining: 631ms
598: learn: 0.3220943 total: 941ms remaining: 630ms
599: learn: 0.3220075 total: 942ms remaining: 628ms
600: learn: 0.3217828 total: 944ms remaining: 626ms
601: learn: 0.3217413 total: 945ms remaining: 625ms
602: learn: 0.3216604 total: 946ms remaining: 623ms
603: learn: 0.3216032 total: 947ms remaining: 621ms
604: learn: 0.3214672 total: 949ms remaining: 619ms
605: learn: 0.3213510 total: 952ms remaining: 619ms
606: learn: 0.3212864 total: 953ms remaining: 617ms
607: learn: 0.3212437 total: 955ms remaining: 616ms
608: learn: 0.3212014 total: 956ms remaining: 614ms
609: learn: 0.3211500 total: 959ms remaining: 612ms
```

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609: learn: 0.3208150 total: 959ms remaining: 615ms
610: learn: 0.3210063 total: 960ms remaining: 611ms
611: learn: 0.3209806 total: 962ms remaining: 610ms
612: learn: 0.3208646 total: 964ms remaining: 608ms
613: learn: 0.3207391 total: 965ms remaining: 607ms
614: learn: 0.3206106 total: 967ms remaining: 605ms
615: learn: 0.3205389 total: 968ms remaining: 604ms
616: learn: 0.3204645 total: 970ms remaining: 602ms
617: learn: 0.3204437 total: 971ms remaining: 600ms
618: learn: 0.3202870 total: 972ms remaining: 598ms
619: learn: 0.3201929 total: 974ms remaining: 597ms
620: learn: 0.3199764 total: 976ms remaining: 595ms
621: learn: 0.3199100 total: 977ms remaining: 594ms
622: learn: 0.3198105 total: 978ms remaining: 592ms
623: learn: 0.3196813 total: 980ms remaining: 591ms
624: learn: 0.3194939 total: 982ms remaining: 589ms
625: learn: 0.3194648 total: 983ms remaining: 587ms
626: learn: 0.3192705 total: 984ms remaining: 586ms
627: learn: 0.3192357 total: 986ms remaining: 584ms
628: learn: 0.3191291 total: 987ms remaining: 582ms
629: learn: 0.3190628 total: 989ms remaining: 581ms
630: learn: 0.3189385 total: 990ms remaining: 579ms
631: learn: 0.3188415 total: 992ms remaining: 578ms
632: learn: 0.3187952 total: 994ms remaining: 576ms
633: learn: 0.3187265 total: 995ms remaining: 574ms
634: learn: 0.3185328 total: 997ms remaining: 573ms
635: learn: 0.3184749 total: 998ms remaining: 571ms
636: learn: 0.3183867 total: 1000ms remaining: 570ms
637: learn: 0.3183001 total: 1s remaining: 568ms
638: learn: 0.3180271 total: 1s remaining: 566ms
639: learn: 0.3179299 total: 1s remaining: 565ms
640: learn: 0.3179117 total: 1s remaining: 563ms
641: learn: 0.3177787 total: 1.01s remaining: 562ms
642: learn: 0.3176727 total: 1.01s remaining: 560ms
643: learn: 0.3175724 total: 1.01s remaining: 559ms
644: learn: 0.3175096 total: 1.01s remaining: 557ms
645: learn: 0.3174377 total: 1.01s remaining: 555ms
646: learn: 0.3174029 total: 1.01s remaining: 554ms
647: learn: 0.3172355 total: 1.02s remaining: 552ms
648: learn: 0.3169032 total: 1.02s remaining: 550ms
649: learn: 0.3167119 total: 1.02s remaining: 549ms
650: learn: 0.3166101 total: 1.02s remaining: 547ms
651: learn: 0.3164860 total: 1.02s remaining: 545ms
652: learn: 0.3164388 total: 1.02s remaining: 544ms
653: learn: 0.3163851 total: 1.02s remaining: 542ms
654: learn: 0.3162930 total: 1.03s remaining: 541ms
655: learn: 0.3161870 total: 1.03s remaining: 539ms
656: learn: 0.3160821 total: 1.03s remaining: 538ms
657: learn: 0.3160352 total: 1.03s remaining: 536ms
658: learn: 0.3159852 total: 1.03s remaining: 535ms
659: learn: 0.3159078 total: 1.03s remaining: 533ms
660: learn: 0.3158723 total: 1.04s remaining: 531ms
661: learn: 0.3156920 total: 1.04s remaining: 530ms
662: learn: 0.3155956 total: 1.04s remaining: 530ms
663: learn: 0.3154370 total: 1.04s remaining: 528ms
664: learn: 0.3153638 total: 1.04s remaining: 526ms
665: learn: 0.3152225 total: 1.05s remaining: 525ms
666: learn: 0.3151336 total: 1.05s remaining: 523ms
667: learn: 0.3150695 total: 1.05s remaining: 522ms
668: learn: 0.3149700 total: 1.05s remaining: 520ms
669: learn: 0.3148840 total: 1.05s remaining: 518ms
670: learn: 0.3147541 total: 1.05s remaining: 517ms
671: learn: 0.3146347 total: 1.05s remaining: 515ms
672: learn: 0.3145199 total: 1.06s remaining: 513ms
673: learn: 0.3143888 total: 1.06s remaining: 512ms
674: learn: 0.3143225 total: 1.06s remaining: 510ms
675: learn: 0.3142132 total: 1.06s remaining: 508ms
676: learn: 0.3141869 total: 1.06s remaining: 507ms
677: learn: 0.3141410 total: 1.06s remaining: 505ms
678: learn: 0.3140751 total: 1.06s remaining: 504ms
679: learn: 0.3140031 total: 1.07s remaining: 502ms
680: learn: 0.3139123 total: 1.07s remaining: 501ms
681: learn: 0.3137801 total: 1.07s remaining: 500ms
```

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681: learn: 0.315791 total: 1.07s remaining: 499ms
682: learn: 0.3137731 total: 1.07s remaining: 498ms
683: learn: 0.3137138 total: 1.07s remaining: 496ms
684: learn: 0.3136368 total: 1.07s remaining: 495ms
685: learn: 0.3136173 total: 1.08s remaining: 493ms
686: learn: 0.3134727 total: 1.08s remaining: 492ms
687: learn: 0.3133018 total: 1.08s remaining: 490ms
688: learn: 0.3132586 total: 1.08s remaining: 489ms
689: learn: 0.3131867 total: 1.08s remaining: 487ms
690: learn: 0.3129935 total: 1.08s remaining: 485ms
691: learn: 0.3129693 total: 1.09s remaining: 484ms
692: learn: 0.3129119 total: 1.09s remaining: 482ms
693: learn: 0.3128417 total: 1.09s remaining: 481ms
694: learn: 0.3127152 total: 1.09s remaining: 479ms
695: learn: 0.3126563 total: 1.09s remaining: 477ms
696: learn: 0.3125676 total: 1.09s remaining: 476ms
697: learn: 0.3125223 total: 1.1s remaining: 474ms
698: learn: 0.3124779 total: 1.1s remaining: 473ms
699: learn: 0.3122849 total: 1.1s remaining: 472ms
700: learn: 0.3121980 total: 1.1s remaining: 470ms
701: learn: 0.3119794 total: 1.1s remaining: 469ms
702: learn: 0.3119065 total: 1.1s remaining: 467ms
703: learn: 0.3118456 total: 1.11s remaining: 466ms
704: learn: 0.3117287 total: 1.11s remaining: 465ms
705: learn: 0.3116808 total: 1.11s remaining: 463ms
706: learn: 0.3115955 total: 1.11s remaining: 462ms
707: learn: 0.3115123 total: 1.12s remaining: 460ms
708: learn: 0.3114086 total: 1.12s remaining: 459ms
709: learn: 0.3112369 total: 1.12s remaining: 458ms
710: learn: 0.3111871 total: 1.12s remaining: 456ms
711: learn: 0.3111575 total: 1.12s remaining: 454ms
712: learn: 0.3109284 total: 1.13s remaining: 453ms
713: learn: 0.3108529 total: 1.13s remaining: 451ms
714: learn: 0.3107200 total: 1.13s remaining: 450ms
715: learn: 0.3106043 total: 1.13s remaining: 448ms
716: learn: 0.3104635 total: 1.13s remaining: 447ms
717: learn: 0.3104580 total: 1.13s remaining: 445ms
718: learn: 0.3103282 total: 1.14s remaining: 444ms
719: learn: 0.3102711 total: 1.14s remaining: 442ms
720: learn: 0.3100958 total: 1.14s remaining: 440ms
721: learn: 0.3100014 total: 1.14s remaining: 439ms
722: learn: 0.3098688 total: 1.14s remaining: 437ms
723: learn: 0.3097618 total: 1.14s remaining: 436ms
724: learn: 0.3097014 total: 1.15s remaining: 434ms
725: learn: 0.3096103 total: 1.15s remaining: 433ms
726: learn: 0.3094807 total: 1.15s remaining: 431ms
727: learn: 0.3093679 total: 1.15s remaining: 430ms
728: learn: 0.3093103 total: 1.15s remaining: 428ms
729: learn: 0.3091960 total: 1.15s remaining: 426ms
730: learn: 0.3091302 total: 1.15s remaining: 425ms
731: learn: 0.3089784 total: 1.16s remaining: 423ms
732: learn: 0.3088929 total: 1.16s remaining: 422ms
733: learn: 0.3088708 total: 1.16s remaining: 420ms
734: learn: 0.3088199 total: 1.16s remaining: 419ms
735: learn: 0.3086947 total: 1.17s remaining: 418ms
736: learn: 0.3086439 total: 1.17s remaining: 416ms
737: learn: 0.3084598 total: 1.17s remaining: 415ms
738: learn: 0.3083291 total: 1.17s remaining: 414ms
739: learn: 0.3082233 total: 1.17s remaining: 412ms
740: learn: 0.3081775 total: 1.17s remaining: 411ms
741: learn: 0.3078753 total: 1.18s remaining: 409ms
742: learn: 0.3078064 total: 1.18s remaining: 408ms
743: learn: 0.3077601 total: 1.18s remaining: 406ms
744: learn: 0.3076994 total: 1.18s remaining: 404ms
745: learn: 0.3075686 total: 1.18s remaining: 403ms
746: learn: 0.3074945 total: 1.18s remaining: 401ms
747: learn: 0.3073620 total: 1.19s remaining: 400ms
748: learn: 0.3072325 total: 1.19s remaining: 398ms
749: learn: 0.3071529 total: 1.19s remaining: 397ms
750: learn: 0.3070762 total: 1.19s remaining: 395ms
751: learn: 0.3070312 total: 1.19s remaining: 394ms
752: learn: 0.3068895 total: 1.2s remaining: 392ms
753: learn: 0.3067622 total: 1.2s remaining: 390ms
```

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153: learn: 0.3001022 total: 1.2s remaining: 599ms
754: learn: 0.3067245 total: 1.2s remaining: 389ms
755: learn: 0.3066409 total: 1.2s remaining: 387ms
756: learn: 0.3065950 total: 1.2s remaining: 386ms
757: learn: 0.3065289 total: 1.21s remaining: 385ms
758: learn: 0.3063719 total: 1.21s remaining: 383ms
759: learn: 0.3062620 total: 1.21s remaining: 382ms
760: learn: 0.3060592 total: 1.21s remaining: 380ms
761: learn: 0.3059408 total: 1.21s remaining: 378ms
762: learn: 0.3059048 total: 1.21s remaining: 377ms
763: learn: 0.3058575 total: 1.22s remaining: 376ms
764: learn: 0.3057421 total: 1.22s remaining: 374ms
765: learn: 0.3056756 total: 1.22s remaining: 373ms
766: learn: 0.3055682 total: 1.22s remaining: 371ms
767: learn: 0.3055086 total: 1.22s remaining: 370ms
768: learn: 0.3054382 total: 1.23s remaining: 368ms
769: learn: 0.3053424 total: 1.23s remaining: 367ms
770: learn: 0.3052256 total: 1.23s remaining: 365ms
771: learn: 0.3051605 total: 1.23s remaining: 364ms
772: learn: 0.3050168 total: 1.23s remaining: 362ms
773: learn: 0.3049022 total: 1.24s remaining: 361ms
774: learn: 0.3046861 total: 1.24s remaining: 359ms
775: learn: 0.3046654 total: 1.24s remaining: 358ms
776: learn: 0.3046018 total: 1.24s remaining: 356ms
777: learn: 0.3045091 total: 1.24s remaining: 354ms
778: learn: 0.3044193 total: 1.24s remaining: 353ms
779: learn: 0.3043824 total: 1.25s remaining: 351ms
780: learn: 0.3042647 total: 1.25s remaining: 350ms
781: learn: 0.3040299 total: 1.25s remaining: 348ms
782: learn: 0.3040038 total: 1.25s remaining: 347ms
783: learn: 0.3037923 total: 1.25s remaining: 345ms
784: learn: 0.3035388 total: 1.25s remaining: 344ms
785: learn: 0.3034845 total: 1.26s remaining: 343ms
786: learn: 0.3033105 total: 1.26s remaining: 342ms
787: learn: 0.3032863 total: 1.26s remaining: 340ms
788: learn: 0.3031052 total: 1.27s remaining: 339ms
789: learn: 0.3030154 total: 1.27s remaining: 337ms
790: learn: 0.3028564 total: 1.27s remaining: 335ms
791: learn: 0.3026861 total: 1.27s remaining: 334ms
792: learn: 0.3026243 total: 1.27s remaining: 332ms
793: learn: 0.3025734 total: 1.27s remaining: 331ms
794: learn: 0.3023428 total: 1.28s remaining: 329ms
795: learn: 0.3022051 total: 1.28s remaining: 328ms
796: learn: 0.3020884 total: 1.28s remaining: 326ms
797: learn: 0.3019426 total: 1.28s remaining: 324ms
798: learn: 0.3018082 total: 1.28s remaining: 323ms
799: learn: 0.3015487 total: 1.28s remaining: 321ms
800: learn: 0.3014664 total: 1.29s remaining: 320ms
801: learn: 0.3013822 total: 1.29s remaining: 318ms
802: learn: 0.3012479 total: 1.29s remaining: 316ms
803: learn: 0.3011318 total: 1.29s remaining: 315ms
804: learn: 0.3010558 total: 1.29s remaining: 313ms
805: learn: 0.3008967 total: 1.29s remaining: 312ms
806: learn: 0.3008232 total: 1.3s remaining: 310ms
807: learn: 0.3006106 total: 1.3s remaining: 308ms
808: learn: 0.3004381 total: 1.3s remaining: 307ms
809: learn: 0.3003495 total: 1.3s remaining: 305ms
810: learn: 0.3002341 total: 1.3s remaining: 304ms
811: learn: 0.3000992 total: 1.3s remaining: 302ms
812: learn: 0.3000331 total: 1.31s remaining: 301ms
813: learn: 0.2999409 total: 1.31s remaining: 299ms
814: learn: 0.2998932 total: 1.31s remaining: 297ms
815: learn: 0.2997953 total: 1.31s remaining: 296ms
816: learn: 0.2996666 total: 1.31s remaining: 294ms
817: learn: 0.2995889 total: 1.31s remaining: 293ms
818: learn: 0.2993859 total: 1.32s remaining: 291ms
819: learn: 0.2992235 total: 1.32s remaining: 290ms
820: learn: 0.2990963 total: 1.32s remaining: 288ms
821: learn: 0.2989587 total: 1.32s remaining: 286ms
822: learn: 0.2989204 total: 1.32s remaining: 285ms
823: learn: 0.2986913 total: 1.32s remaining: 283ms
824: learn: 0.2985928 total: 1.33s remaining: 282ms
825: learn: 0.2984120 total: 1.32s remaining: 280ms
```

```
825: learn: 0.2984129 total: 1.33s remaining: 280ms
826: learn: 0.2981823 total: 1.33s remaining: 279ms
827: learn: 0.2981076 total: 1.33s remaining: 277ms
828: learn: 0.2979995 total: 1.34s remaining: 276ms
829: learn: 0.2979882 total: 1.34s remaining: 274ms
830: learn: 0.2978561 total: 1.34s remaining: 272ms
831: learn: 0.2978098 total: 1.34s remaining: 271ms
832: learn: 0.2977222 total: 1.34s remaining: 269ms
833: learn: 0.2976653 total: 1.34s remaining: 268ms
834: learn: 0.2976096 total: 1.34s remaining: 266ms
835: learn: 0.2975586 total: 1.35s remaining: 264ms
836: learn: 0.2973637 total: 1.35s remaining: 263ms
837: learn: 0.2973013 total: 1.35s remaining: 261ms
838: learn: 0.2971877 total: 1.35s remaining: 260ms
839: learn: 0.2971159 total: 1.35s remaining: 258ms
840: learn: 0.2970226 total: 1.35s remaining: 256ms
841: learn: 0.2969026 total: 1.36s remaining: 255ms
842: learn: 0.2968614 total: 1.36s remaining: 253ms
843: learn: 0.2967497 total: 1.36s remaining: 251ms
844: learn: 0.2964618 total: 1.36s remaining: 250ms
845: learn: 0.2963867 total: 1.36s remaining: 248ms
846: learn: 0.2962326 total: 1.36s remaining: 247ms
847: learn: 0.2961894 total: 1.37s remaining: 245ms
848: learn: 0.2961348 total: 1.37s remaining: 243ms
849: learn: 0.2960599 total: 1.37s remaining: 242ms
850: learn: 0.2959284 total: 1.37s remaining: 240ms
851: learn: 0.2958045 total: 1.37s remaining: 239ms
852: learn: 0.2956923 total: 1.38s remaining: 237ms
853: learn: 0.2956400 total: 1.38s remaining: 235ms
854: learn: 0.2955586 total: 1.38s remaining: 234ms
855: learn: 0.2955036 total: 1.38s remaining: 232ms
856: learn: 0.2953912 total: 1.38s remaining: 231ms
857: learn: 0.2951286 total: 1.38s remaining: 229ms
858: learn: 0.2948849 total: 1.39s remaining: 227ms
859: learn: 0.2948177 total: 1.39s remaining: 226ms
860: learn: 0.2947008 total: 1.39s remaining: 224ms
861: learn: 0.2946270 total: 1.39s remaining: 223ms
862: learn: 0.2944653 total: 1.39s remaining: 221ms
863: learn: 0.2944124 total: 1.39s remaining: 219ms
864: learn: 0.2943001 total: 1.39s remaining: 218ms
865: learn: 0.2940991 total: 1.4s remaining: 216ms
866: learn: 0.2940367 total: 1.4s remaining: 214ms
867: learn: 0.2940124 total: 1.4s remaining: 213ms
868: learn: 0.2939354 total: 1.4s remaining: 211ms
869: learn: 0.2938886 total: 1.4s remaining: 209ms
870: learn: 0.2938123 total: 1.4s remaining: 208ms
871: learn: 0.2937345 total: 1.41s remaining: 206ms
872: learn: 0.2936818 total: 1.41s remaining: 205ms
873: learn: 0.2936051 total: 1.41s remaining: 203ms
874: learn: 0.2934713 total: 1.41s remaining: 202ms
875: learn: 0.2933896 total: 1.41s remaining: 200ms
876: learn: 0.2933527 total: 1.42s remaining: 198ms
877: learn: 0.2931135 total: 1.42s remaining: 197ms
878: learn: 0.2930718 total: 1.42s remaining: 195ms
879: learn: 0.2929925 total: 1.42s remaining: 194ms
880: learn: 0.2929322 total: 1.42s remaining: 192ms
881: learn: 0.2928890 total: 1.43s remaining: 191ms
882: learn: 0.2928421 total: 1.43s remaining: 189ms
883: learn: 0.2926685 total: 1.43s remaining: 188ms
884: learn: 0.2926397 total: 1.43s remaining: 186ms
885: learn: 0.2925845 total: 1.43s remaining: 184ms
886: learn: 0.2925255 total: 1.44s remaining: 183ms
887: learn: 0.2923931 total: 1.44s remaining: 181ms
888: learn: 0.2923175 total: 1.44s remaining: 180ms
889: learn: 0.2921866 total: 1.44s remaining: 178ms
890: learn: 0.2920952 total: 1.44s remaining: 176ms
891: learn: 0.2920057 total: 1.44s remaining: 175ms
892: learn: 0.2919761 total: 1.45s remaining: 173ms
893: learn: 0.2917063 total: 1.45s remaining: 172ms
894: learn: 0.2915896 total: 1.45s remaining: 170ms
895: learn: 0.2915334 total: 1.45s remaining: 168ms
896: learn: 0.2914824 total: 1.45s remaining: 167ms
897: ----- 0.2912252 +----- 1.46----- 165ms
```

```
897: learn: 0.2915552 total: 1.40s remaining: 160ms
898: learn: 0.2912859 total: 1.46s remaining: 164ms
899: learn: 0.2911065 total: 1.46s remaining: 162ms
900: learn: 0.2910385 total: 1.46s remaining: 161ms
901: learn: 0.2909672 total: 1.46s remaining: 159ms
902: learn: 0.2908888 total: 1.46s remaining: 157ms
903: learn: 0.2907228 total: 1.47s remaining: 156ms
904: learn: 0.2905460 total: 1.47s remaining: 154ms
905: learn: 0.2904941 total: 1.47s remaining: 152ms
906: learn: 0.2903619 total: 1.47s remaining: 151ms
907: learn: 0.2902889 total: 1.47s remaining: 149ms
908: learn: 0.2902095 total: 1.47s remaining: 147ms
909: learn: 0.2901443 total: 1.48s remaining: 146ms
910: learn: 0.2900443 total: 1.48s remaining: 144ms
911: learn: 0.2899876 total: 1.48s remaining: 143ms
912: learn: 0.2899197 total: 1.48s remaining: 141ms
913: learn: 0.2898528 total: 1.48s remaining: 139ms
914: learn: 0.2897955 total: 1.48s remaining: 138ms
915: learn: 0.2897279 total: 1.49s remaining: 136ms
916: learn: 0.2896754 total: 1.49s remaining: 135ms
917: learn: 0.2895717 total: 1.49s remaining: 133ms
918: learn: 0.2894298 total: 1.49s remaining: 131ms
919: learn: 0.2893607 total: 1.49s remaining: 130ms
920: learn: 0.2892646 total: 1.49s remaining: 128ms
921: learn: 0.2891948 total: 1.5s remaining: 126ms
922: learn: 0.2889345 total: 1.5s remaining: 125ms
923: learn: 0.2888403 total: 1.5s remaining: 123ms
924: learn: 0.2887971 total: 1.5s remaining: 122ms
925: learn: 0.2887350 total: 1.5s remaining: 120ms
926: learn: 0.2886716 total: 1.5s remaining: 118ms
927: learn: 0.2886243 total: 1.5s remaining: 117ms
928: learn: 0.2885561 total: 1.5s remaining: 115ms
929: learn: 0.2885347 total: 1.51s remaining: 113ms
930: learn: 0.2884921 total: 1.51s remaining: 112ms
931: learn: 0.2884322 total: 1.51s remaining: 110ms
932: learn: 0.2882774 total: 1.51s remaining: 109ms
933: learn: 0.2882053 total: 1.51s remaining: 107ms
934: learn: 0.2881687 total: 1.51s remaining: 105ms
935: learn: 0.2880939 total: 1.52s remaining: 104ms
936: learn: 0.2880009 total: 1.52s remaining: 102ms
937: learn: 0.2879437 total: 1.52s remaining: 100ms
938: learn: 0.2878330 total: 1.52s remaining: 98.8ms
939: learn: 0.2878206 total: 1.52s remaining: 97.2ms
940: learn: 0.2876418 total: 1.52s remaining: 95.5ms
941: learn: 0.2875530 total: 1.52s remaining: 93.9ms
942: learn: 0.2873897 total: 1.53s remaining: 92.2ms
943: learn: 0.2873269 total: 1.53s remaining: 90.6ms
944: learn: 0.2872807 total: 1.53s remaining: 89ms
945: learn: 0.2871552 total: 1.53s remaining: 87.4ms
946: learn: 0.2870853 total: 1.53s remaining: 85.8ms
947: learn: 0.2870130 total: 1.53s remaining: 84.2ms
948: learn: 0.2869247 total: 1.54s remaining: 82.6ms
949: learn: 0.2868866 total: 1.54s remaining: 81ms
950: learn: 0.2868129 total: 1.54s remaining: 79.3ms
951: learn: 0.2866944 total: 1.54s remaining: 77.7ms
952: learn: 0.2866486 total: 1.54s remaining: 76.1ms
953: learn: 0.2864803 total: 1.54s remaining: 74.5ms
954: learn: 0.2864136 total: 1.55s remaining: 72.9ms
955: learn: 0.2862728 total: 1.55s remaining: 71.3ms
956: learn: 0.2862239 total: 1.55s remaining: 69.7ms
957: learn: 0.2861472 total: 1.55s remaining: 68.1ms
958: learn: 0.2861062 total: 1.55s remaining: 66.4ms
959: learn: 0.2859993 total: 1.55s remaining: 64.8ms
960: learn: 0.2859089 total: 1.56s remaining: 63.2ms
961: learn: 0.2856823 total: 1.56s remaining: 61.6ms
962: learn: 0.2856197 total: 1.56s remaining: 60ms
963: learn: 0.2855463 total: 1.56s remaining: 58.4ms
964: learn: 0.2855192 total: 1.56s remaining: 56.7ms
965: learn: 0.2854258 total: 1.56s remaining: 55.1ms
966: learn: 0.2853525 total: 1.57s remaining: 53.5ms
967: learn: 0.2853066 total: 1.57s remaining: 51.8ms
968: learn: 0.2852359 total: 1.57s remaining: 50.2ms
969: learn: 0.2850006 total: 1.57s remaining: 49.6ms
```

```
909: learn: 0.2855080 total: 1.57s remaining: 40.0ms
970: learn: 0.2849521 total: 1.57s remaining: 47ms
971: learn: 0.2848553 total: 1.57s remaining: 45.4ms
972: learn: 0.2848037 total: 1.58s remaining: 43.7ms
973: learn: 0.2847295 total: 1.58s remaining: 42.1ms
974: learn: 0.2846819 total: 1.58s remaining: 40.5ms
975: learn: 0.2846198 total: 1.58s remaining: 38.9ms
976: learn: 0.2845671 total: 1.58s remaining: 37.3ms
977: learn: 0.2844993 total: 1.58s remaining: 35.6ms
978: learn: 0.2843743 total: 1.59s remaining: 34ms
979: learn: 0.2843128 total: 1.59s remaining: 32.4ms
980: learn: 0.2840623 total: 1.59s remaining: 30.8ms
981: learn: 0.2840514 total: 1.59s remaining: 29.1ms
982: learn: 0.2840145 total: 1.59s remaining: 27.5ms
983: learn: 0.2839967 total: 1.59s remaining: 25.9ms
984: learn: 0.2838395 total: 1.6s remaining: 24.3ms
985: learn: 0.2837598 total: 1.6s remaining: 22.7ms
986: learn: 0.2837132 total: 1.6s remaining: 21.1ms
987: learn: 0.2836889 total: 1.6s remaining: 19.5ms
988: learn: 0.2836337 total: 1.6s remaining: 17.8ms
989: learn: 0.2833141 total: 1.6s remaining: 16.2ms
990: learn: 0.2832138 total: 1.61s remaining: 14.6ms
991: learn: 0.2831989 total: 1.61s remaining: 13ms
992: learn: 0.2829877 total: 1.61s remaining: 11.4ms
993: learn: 0.2829547 total: 1.61s remaining: 9.73ms
994: learn: 0.2828232 total: 1.61s remaining: 8.11ms
995: learn: 0.2827713 total: 1.61s remaining: 6.48ms
996: learn: 0.2827584 total: 1.62s remaining: 4.86ms
997: learn: 0.2827028 total: 1.62s remaining: 3.24ms
998: learn: 0.2826194 total: 1.62s remaining: 1.62ms
999: learn: 0.2825716 total: 1.62s remaining: 0us
```

Learning rate set to 0.009376

```
0: learn: 0.6868865 total: 995us remaining: 994ms
1: learn: 0.6832344 total: 1.74ms remaining: 867ms
2: learn: 0.6777161 total: 2.81ms remaining: 935ms
3: learn: 0.6719894 total: 3.81ms remaining: 950ms
4: learn: 0.6666797 total: 4.7ms remaining: 936ms
5: learn: 0.6611946 total: 5.95ms remaining: 986ms
6: learn: 0.6567689 total: 7.25ms remaining: 1.03s
7: learn: 0.6507545 total: 9.12ms remaining: 1.13s
8: learn: 0.6456411 total: 10.6ms remaining: 1.17s
9: learn: 0.6398495 total: 12.6ms remaining: 1.25s
10: learn: 0.6343829 total: 14.8ms remaining: 1.33s
11: learn: 0.6293421 total: 16.6ms remaining: 1.36s
12: learn: 0.6238549 total: 18.2ms remaining: 1.38s
13: learn: 0.6197061 total: 19.6ms remaining: 1.38s
14: learn: 0.6152307 total: 20.8ms remaining: 1.36s
15: learn: 0.6105013 total: 22ms remaining: 1.35s
16: learn: 0.6060289 total: 23.9ms remaining: 1.38s
17: learn: 0.6020764 total: 25.2ms remaining: 1.37s
18: learn: 0.5978575 total: 26.4ms remaining: 1.36s
19: learn: 0.5932484 total: 27.8ms remaining: 1.36s
20: learn: 0.5893215 total: 28.7ms remaining: 1.34s
21: learn: 0.5851092 total: 30.2ms remaining: 1.34s
22: learn: 0.5817521 total: 31ms remaining: 1.32s
23: learn: 0.5783110 total: 31.8ms remaining: 1.29s
24: learn: 0.5744891 total: 33.5ms remaining: 1.31s
25: learn: 0.5713755 total: 34.4ms remaining: 1.29s
26: learn: 0.5681602 total: 35.7ms remaining: 1.29s
27: learn: 0.5646303 total: 37.5ms remaining: 1.3s
28: learn: 0.5609593 total: 40.3ms remaining: 1.35s
29: learn: 0.5574178 total: 42ms remaining: 1.36s
30: learn: 0.5539396 total: 43.6ms remaining: 1.36s
31: learn: 0.5512109 total: 44.5ms remaining: 1.34s
32: learn: 0.5484864 total: 45.6ms remaining: 1.34s
33: learn: 0.5455501 total: 47.2ms remaining: 1.34s
34: learn: 0.5420643 total: 48.9ms remaining: 1.35s
35: learn: 0.5391452 total: 50.3ms remaining: 1.35s
36: learn: 0.5369878 total: 51.7ms remaining: 1.35s
37: learn: 0.5339692 total: 53.4ms remaining: 1.35s
38: learn: 0.5315328 total: 54.5ms remaining: 1.34s
39: learn: 0.5291227 total: 56.1ms remaining: 1.34s
40: learn: 0.5260075 total: 57ms remaining: 1.35s
```

```
40: learn: 0.5200815 total: 57.9ms remaining: 1.35s
41: learn: 0.5235804 total: 59.3ms remaining: 1.35s
42: learn: 0.5207680 total: 60.5ms remaining: 1.35s
43: learn: 0.5180863 total: 61.4ms remaining: 1.33s
44: learn: 0.5153066 total: 62.3ms remaining: 1.32s
45: learn: 0.5126480 total: 63.4ms remaining: 1.31s
46: learn: 0.5101284 total: 64.6ms remaining: 1.31s
47: learn: 0.5075470 total: 65.7ms remaining: 1.3s
48: learn: 0.5053253 total: 66.8ms remaining: 1.29s
49: learn: 0.5029296 total: 67.9ms remaining: 1.29s
50: learn: 0.5011376 total: 69.3ms remaining: 1.29s
51: learn: 0.4987913 total: 70.7ms remaining: 1.29s
52: learn: 0.4968810 total: 71.5ms remaining: 1.28s
53: learn: 0.4945649 total: 72.8ms remaining: 1.27s
54: learn: 0.4929788 total: 74.2ms remaining: 1.27s
55: learn: 0.4907337 total: 75.9ms remaining: 1.28s
56: learn: 0.4885653 total: 77.7ms remaining: 1.28s
57: learn: 0.4866361 total: 79.6ms remaining: 1.29s
58: learn: 0.4847099 total: 81.3ms remaining: 1.3s
59: learn: 0.4827315 total: 83.4ms remaining: 1.31s
60: learn: 0.4807343 total: 85.1ms remaining: 1.31s
61: learn: 0.4789536 total: 86.9ms remaining: 1.31s
62: learn: 0.4774879 total: 88.8ms remaining: 1.32s
63: learn: 0.4755451 total: 90.4ms remaining: 1.32s
64: learn: 0.4741494 total: 92.8ms remaining: 1.33s
65: learn: 0.4720601 total: 94.5ms remaining: 1.34s
66: learn: 0.4703599 total: 95.8ms remaining: 1.33s
67: learn: 0.4688478 total: 97.6ms remaining: 1.34s
68: learn: 0.4672364 total: 98.9ms remaining: 1.33s
69: learn: 0.4651851 total: 101ms remaining: 1.33s
70: learn: 0.4636605 total: 102ms remaining: 1.34s
71: learn: 0.4618878 total: 103ms remaining: 1.33s
72: learn: 0.4601870 total: 105ms remaining: 1.33s
73: learn: 0.4588052 total: 106ms remaining: 1.33s
74: learn: 0.4570467 total: 108ms remaining: 1.34s
75: learn: 0.4559565 total: 112ms remaining: 1.36s
76: learn: 0.4544084 total: 115ms remaining: 1.38s
77: learn: 0.4533607 total: 117ms remaining: 1.38s
78: learn: 0.4521723 total: 118ms remaining: 1.38s
79: learn: 0.4506973 total: 120ms remaining: 1.38s
80: learn: 0.4493612 total: 121ms remaining: 1.37s
81: learn: 0.4484291 total: 123ms remaining: 1.37s
82: learn: 0.4471849 total: 124ms remaining: 1.37s
83: learn: 0.4462136 total: 127ms remaining: 1.38s
84: learn: 0.4446593 total: 129ms remaining: 1.39s
85: learn: 0.4435303 total: 131ms remaining: 1.39s
86: learn: 0.4421544 total: 133ms remaining: 1.4s
87: learn: 0.4410065 total: 135ms remaining: 1.4s
88: learn: 0.4397311 total: 136ms remaining: 1.39s
89: learn: 0.4385367 total: 138ms remaining: 1.39s
90: learn: 0.4375670 total: 140ms remaining: 1.4s
91: learn: 0.4365242 total: 141ms remaining: 1.39s
92: learn: 0.4353319 total: 143ms remaining: 1.4s
93: learn: 0.4344239 total: 145ms remaining: 1.4s
94: learn: 0.4331873 total: 147ms remaining: 1.4s
95: learn: 0.4320096 total: 149ms remaining: 1.4s
96: learn: 0.4307776 total: 151ms remaining: 1.4s
97: learn: 0.4301817 total: 153ms remaining: 1.41s
98: learn: 0.4289484 total: 154ms remaining: 1.4s
99: learn: 0.4278984 total: 156ms remaining: 1.4s
100: learn: 0.4268334 total: 157ms remaining: 1.4s
101: learn: 0.4258849 total: 160ms remaining: 1.41s
102: learn: 0.4248854 total: 161ms remaining: 1.4s
103: learn: 0.4240424 total: 163ms remaining: 1.4s
104: learn: 0.4232328 total: 165ms remaining: 1.41s
105: learn: 0.4222054 total: 167ms remaining: 1.41s
106: learn: 0.4213988 total: 169ms remaining: 1.41s
107: learn: 0.4209715 total: 170ms remaining: 1.41s
108: learn: 0.4201731 total: 172ms remaining: 1.41s
109: learn: 0.4192426 total: 174ms remaining: 1.41s
110: learn: 0.4185889 total: 175ms remaining: 1.4s
111: learn: 0.4183019 total: 176ms remaining: 1.39s
112: learn: 0.4172240 total: 178ms remaining: 1.4s
```

```
112: learn: 0.415540 total: 179ms remaining: 1.4s
113: learn: 0.4164223 total: 180ms remaining: 1.4s
114: learn: 0.4159228 total: 182ms remaining: 1.4s
115: learn: 0.4153835 total: 184ms remaining: 1.4s
116: learn: 0.4145623 total: 185ms remaining: 1.4s
117: learn: 0.4140508 total: 187ms remaining: 1.39s
118: learn: 0.4136068 total: 188ms remaining: 1.39s
119: learn: 0.4129104 total: 190ms remaining: 1.39s
120: learn: 0.4120456 total: 192ms remaining: 1.39s
121: learn: 0.4113431 total: 193ms remaining: 1.39s
122: learn: 0.4107716 total: 195ms remaining: 1.39s
123: learn: 0.4099918 total: 197ms remaining: 1.39s
124: learn: 0.4092784 total: 198ms remaining: 1.39s
125: learn: 0.4086786 total: 200ms remaining: 1.38s
126: learn: 0.4080991 total: 202ms remaining: 1.39s
127: learn: 0.4072752 total: 204ms remaining: 1.39s
128: learn: 0.4067714 total: 206ms remaining: 1.39s
129: learn: 0.4060493 total: 210ms remaining: 1.41s
130: learn: 0.4055276 total: 213ms remaining: 1.41s
131: learn: 0.4048630 total: 216ms remaining: 1.42s
132: learn: 0.4041728 total: 217ms remaining: 1.42s
133: learn: 0.4037014 total: 219ms remaining: 1.42s
134: learn: 0.4030358 total: 221ms remaining: 1.42s
135: learn: 0.4023344 total: 224ms remaining: 1.42s
136: learn: 0.4018977 total: 226ms remaining: 1.42s
137: learn: 0.4014289 total: 227ms remaining: 1.42s
138: learn: 0.4009396 total: 230ms remaining: 1.42s
139: learn: 0.4003782 total: 232ms remaining: 1.42s
140: learn: 0.3998891 total: 233ms remaining: 1.42s
141: learn: 0.3993795 total: 234ms remaining: 1.42s
142: learn: 0.3988720 total: 236ms remaining: 1.41s
143: learn: 0.3984400 total: 237ms remaining: 1.41s
144: learn: 0.3977521 total: 239ms remaining: 1.41s
145: learn: 0.3973931 total: 240ms remaining: 1.41s
146: learn: 0.3970947 total: 242ms remaining: 1.4s
147: learn: 0.3968210 total: 243ms remaining: 1.4s
148: learn: 0.3962770 total: 245ms remaining: 1.4s
149: learn: 0.3957488 total: 246ms remaining: 1.4s
150: learn: 0.3955608 total: 247ms remaining: 1.39s
151: learn: 0.3948994 total: 249ms remaining: 1.39s
152: learn: 0.3943706 total: 250ms remaining: 1.38s
153: learn: 0.3939046 total: 251ms remaining: 1.38s
154: learn: 0.3933575 total: 253ms remaining: 1.38s
155: learn: 0.3928749 total: 254ms remaining: 1.37s
156: learn: 0.3924566 total: 255ms remaining: 1.37s
157: learn: 0.3920478 total: 257ms remaining: 1.37s
158: learn: 0.3916372 total: 259ms remaining: 1.37s
159: learn: 0.3911543 total: 260ms remaining: 1.36s
160: learn: 0.3905734 total: 261ms remaining: 1.36s
161: learn: 0.3899789 total: 263ms remaining: 1.36s
162: learn: 0.3897495 total: 265ms remaining: 1.36s
163: learn: 0.3896938 total: 266ms remaining: 1.36s
164: learn: 0.3891220 total: 268ms remaining: 1.36s
165: learn: 0.3887932 total: 270ms remaining: 1.35s
166: learn: 0.3882453 total: 272ms remaining: 1.35s
167: learn: 0.3877700 total: 274ms remaining: 1.35s
168: learn: 0.3875691 total: 276ms remaining: 1.35s
169: learn: 0.3872019 total: 277ms remaining: 1.35s
170: learn: 0.3869552 total: 279ms remaining: 1.35s
171: learn: 0.3865739 total: 282ms remaining: 1.36s
172: learn: 0.3862634 total: 285ms remaining: 1.36s
173: learn: 0.3858238 total: 287ms remaining: 1.36s
174: learn: 0.3854740 total: 289ms remaining: 1.36s
175: learn: 0.3851621 total: 291ms remaining: 1.36s
176: learn: 0.3848253 total: 293ms remaining: 1.36s
177: learn: 0.3843681 total: 294ms remaining: 1.36s
178: learn: 0.3839190 total: 296ms remaining: 1.36s
179: learn: 0.3835515 total: 298ms remaining: 1.36s
180: learn: 0.3833698 total: 300ms remaining: 1.36s
181: learn: 0.3830613 total: 302ms remaining: 1.36s
182: learn: 0.3826090 total: 304ms remaining: 1.36s
183: learn: 0.3822090 total: 306ms remaining: 1.35s
184: learn: 0.3818100 total: 307ms remaining: 1.35s
```

```
184: learn: 0.3810498 total: 50ms remaining: 1.35s
185: learn: 0.3814583 total: 309ms remaining: 1.35s
186: learn: 0.3810241 total: 311ms remaining: 1.35s
187: learn: 0.3808127 total: 313ms remaining: 1.35s
188: learn: 0.3807484 total: 314ms remaining: 1.35s
189: learn: 0.3806223 total: 315ms remaining: 1.34s
190: learn: 0.3804205 total: 317ms remaining: 1.34s
191: learn: 0.3801022 total: 318ms remaining: 1.34s
192: learn: 0.3796658 total: 320ms remaining: 1.34s
193: learn: 0.3792942 total: 321ms remaining: 1.33s
194: learn: 0.3789338 total: 322ms remaining: 1.33s
195: learn: 0.3787183 total: 324ms remaining: 1.33s
196: learn: 0.3782812 total: 325ms remaining: 1.32s
197: learn: 0.3779153 total: 327ms remaining: 1.32s
198: learn: 0.3776952 total: 328ms remaining: 1.32s
199: learn: 0.3775920 total: 330ms remaining: 1.32s
200: learn: 0.3772967 total: 331ms remaining: 1.32s
201: learn: 0.3769829 total: 334ms remaining: 1.32s
202: learn: 0.3766619 total: 335ms remaining: 1.31s
203: learn: 0.3765402 total: 337ms remaining: 1.32s
204: learn: 0.3764252 total: 339ms remaining: 1.31s
205: learn: 0.3761774 total: 341ms remaining: 1.32s
206: learn: 0.3760730 total: 343ms remaining: 1.31s
207: learn: 0.3757560 total: 345ms remaining: 1.31s
208: learn: 0.3754334 total: 347ms remaining: 1.31s
209: learn: 0.3750247 total: 350ms remaining: 1.31s
210: learn: 0.3746862 total: 352ms remaining: 1.31s
211: learn: 0.3745985 total: 353ms remaining: 1.31s
212: learn: 0.3743963 total: 355ms remaining: 1.31s
213: learn: 0.3741917 total: 356ms remaining: 1.31s
214: learn: 0.3739254 total: 358ms remaining: 1.31s
215: learn: 0.3736638 total: 360ms remaining: 1.31s
216: learn: 0.3734097 total: 362ms remaining: 1.3s
217: learn: 0.3731287 total: 364ms remaining: 1.3s
218: learn: 0.3728263 total: 365ms remaining: 1.3s
219: learn: 0.3725166 total: 368ms remaining: 1.3s
220: learn: 0.3722866 total: 369ms remaining: 1.3s
221: learn: 0.3720103 total: 371ms remaining: 1.3s
222: learn: 0.3716920 total: 373ms remaining: 1.3s
223: learn: 0.3713451 total: 375ms remaining: 1.3s
224: learn: 0.3712128 total: 377ms remaining: 1.3s
225: learn: 0.3708933 total: 379ms remaining: 1.3s
226: learn: 0.3706897 total: 381ms remaining: 1.3s
227: learn: 0.3705345 total: 383ms remaining: 1.3s
228: learn: 0.3702051 total: 385ms remaining: 1.3s
229: learn: 0.3701337 total: 387ms remaining: 1.3s
230: learn: 0.3698624 total: 389ms remaining: 1.29s
231: learn: 0.3695767 total: 390ms remaining: 1.29s
232: learn: 0.3694460 total: 393ms remaining: 1.29s
233: learn: 0.3691529 total: 395ms remaining: 1.29s
234: learn: 0.3690428 total: 397ms remaining: 1.29s
235: learn: 0.3687912 total: 398ms remaining: 1.29s
236: learn: 0.3684812 total: 400ms remaining: 1.29s
237: learn: 0.3680848 total: 402ms remaining: 1.29s
238: learn: 0.3677788 total: 404ms remaining: 1.28s
239: learn: 0.3676076 total: 405ms remaining: 1.28s
240: learn: 0.3673507 total: 408ms remaining: 1.28s
241: learn: 0.3671259 total: 409ms remaining: 1.28s
242: learn: 0.3668697 total: 412ms remaining: 1.28s
243: learn: 0.3666872 total: 414ms remaining: 1.28s
244: learn: 0.3665358 total: 416ms remaining: 1.28s
245: learn: 0.3663223 total: 417ms remaining: 1.28s
246: learn: 0.3661948 total: 419ms remaining: 1.28s
247: learn: 0.3659794 total: 420ms remaining: 1.27s
248: learn: 0.3657653 total: 422ms remaining: 1.27s
249: learn: 0.3656366 total: 423ms remaining: 1.27s
250: learn: 0.3655403 total: 424ms remaining: 1.26s
251: learn: 0.3653552 total: 425ms remaining: 1.26s
252: learn: 0.3653307 total: 427ms remaining: 1.26s
253: learn: 0.3652966 total: 430ms remaining: 1.26s
254: learn: 0.3650983 total: 432ms remaining: 1.26s
255: learn: 0.3647747 total: 434ms remaining: 1.26s
256: ----- 0.3645720 +----- 1.26s
```

```
250: learn: 0.3645158 total: 450ms remaining: 1.26s
251: learn: 0.3644382 total: 438ms remaining: 1.26s
252: learn: 0.3642551 total: 440ms remaining: 1.26s
253: learn: 0.3640645 total: 442ms remaining: 1.26s
254: learn: 0.3639318 total: 445ms remaining: 1.26s
255: learn: 0.3637373 total: 446ms remaining: 1.26s
256: learn: 0.3636002 total: 448ms remaining: 1.25s
257: learn: 0.3633702 total: 449ms remaining: 1.25s
258: learn: 0.3631152 total: 451ms remaining: 1.25s
259: learn: 0.3629108 total: 452ms remaining: 1.25s
260: learn: 0.3628987 total: 453ms remaining: 1.24s
261: learn: 0.3626366 total: 455ms remaining: 1.24s
262: learn: 0.3624134 total: 458ms remaining: 1.24s
263: learn: 0.3621494 total: 460ms remaining: 1.24s
264: learn: 0.3620353 total: 462ms remaining: 1.24s
265: learn: 0.3618401 total: 464ms remaining: 1.24s
266: learn: 0.3617343 total: 466ms remaining: 1.24s
267: learn: 0.3614875 total: 469ms remaining: 1.24s
268: learn: 0.3613212 total: 471ms remaining: 1.24s
269: learn: 0.3610662 total: 473ms remaining: 1.24s
270: learn: 0.3609111 total: 475ms remaining: 1.24s
271: learn: 0.3606931 total: 478ms remaining: 1.24s
272: learn: 0.3604521 total: 479ms remaining: 1.24s
273: learn: 0.3601597 total: 480ms remaining: 1.24s
274: learn: 0.3600274 total: 482ms remaining: 1.23s
275: learn: 0.3599002 total: 483ms remaining: 1.23s
276: learn: 0.3596763 total: 484ms remaining: 1.23s
277: learn: 0.3595704 total: 486ms remaining: 1.23s
278: learn: 0.3592992 total: 489ms remaining: 1.23s
279: learn: 0.3592083 total: 490ms remaining: 1.22s
280: learn: 0.3590329 total: 492ms remaining: 1.22s
281: learn: 0.3588639 total: 494ms remaining: 1.22s
282: learn: 0.3586800 total: 496ms remaining: 1.22s
283: learn: 0.3584703 total: 498ms remaining: 1.22s
284: learn: 0.3582878 total: 500ms remaining: 1.22s
285: learn: 0.3580187 total: 502ms remaining: 1.22s
286: learn: 0.3578332 total: 505ms remaining: 1.22s
287: learn: 0.3576842 total: 507ms remaining: 1.22s
288: learn: 0.3575589 total: 509ms remaining: 1.22s
289: learn: 0.3572898 total: 512ms remaining: 1.22s
290: learn: 0.3570856 total: 515ms remaining: 1.22s
291: learn: 0.3568959 total: 517ms remaining: 1.22s
292: learn: 0.3567873 total: 519ms remaining: 1.22s
293: learn: 0.3565640 total: 521ms remaining: 1.21s
294: learn: 0.3562599 total: 523ms remaining: 1.21s
295: learn: 0.3559562 total: 524ms remaining: 1.21s
296: learn: 0.3558853 total: 526ms remaining: 1.21s
297: learn: 0.3557957 total: 528ms remaining: 1.21s
298: learn: 0.3555003 total: 529ms remaining: 1.21s
299: learn: 0.3552847 total: 531ms remaining: 1.2s
300: learn: 0.3552440 total: 532ms remaining: 1.2s
301: learn: 0.3551190 total: 534ms remaining: 1.2s
302: learn: 0.3550316 total: 535ms remaining: 1.2s
303: learn: 0.3548710 total: 536ms remaining: 1.19s
304: learn: 0.3547225 total: 539ms remaining: 1.19s
305: learn: 0.3545771 total: 541ms remaining: 1.19s
306: learn: 0.3545011 total: 543ms remaining: 1.19s
307: learn: 0.3543619 total: 545ms remaining: 1.19s
308: learn: 0.3540783 total: 547ms remaining: 1.19s
309: learn: 0.3538423 total: 549ms remaining: 1.19s
310: learn: 0.3538367 total: 550ms remaining: 1.19s
311: learn: 0.3537221 total: 552ms remaining: 1.18s
312: learn: 0.3536014 total: 553ms remaining: 1.18s
313: learn: 0.3534143 total: 555ms remaining: 1.18s
314: learn: 0.3533941 total: 557ms remaining: 1.18s
315: learn: 0.3533169 total: 559ms remaining: 1.18s
316: learn: 0.3532240 total: 561ms remaining: 1.18s
317: learn: 0.3531216 total: 563ms remaining: 1.17s
318: learn: 0.3530894 total: 565ms remaining: 1.17s
319: learn: 0.3529938 total: 566ms remaining: 1.17s
320: learn: 0.3529484 total: 568ms remaining: 1.17s
321: learn: 0.3527758 total: 569ms remaining: 1.17s
322: learn: 0.3526017 total: 570ms remaining: 1.17s
```

```
528: learn: 0.3520471 total: 574ms remaining: 1.17s
329: learn: 0.3524501 total: 574ms remaining: 1.17s
330: learn: 0.3522195 total: 577ms remaining: 1.17s
331: learn: 0.3520153 total: 579ms remaining: 1.17s
332: learn: 0.3519092 total: 581ms remaining: 1.16s
333: learn: 0.3516419 total: 583ms remaining: 1.16s
334: learn: 0.3513860 total: 585ms remaining: 1.16s
335: learn: 0.3511335 total: 587ms remaining: 1.16s
336: learn: 0.3509722 total: 589ms remaining: 1.16s
337: learn: 0.3508435 total: 591ms remaining: 1.16s
338: learn: 0.3506884 total: 593ms remaining: 1.16s
339: learn: 0.3505579 total: 595ms remaining: 1.15s
340: learn: 0.3504095 total: 597ms remaining: 1.15s
341: learn: 0.3502630 total: 598ms remaining: 1.15s
342: learn: 0.3501119 total: 601ms remaining: 1.15s
343: learn: 0.3499834 total: 602ms remaining: 1.15s
344: learn: 0.3498332 total: 604ms remaining: 1.15s
345: learn: 0.3495697 total: 606ms remaining: 1.15s
346: learn: 0.3494089 total: 608ms remaining: 1.14s
347: learn: 0.3493200 total: 609ms remaining: 1.14s
348: learn: 0.3492554 total: 611ms remaining: 1.14s
349: learn: 0.3491206 total: 613ms remaining: 1.14s
350: learn: 0.3489334 total: 616ms remaining: 1.14s
351: learn: 0.3487320 total: 618ms remaining: 1.14s
352: learn: 0.3485571 total: 620ms remaining: 1.14s
353: learn: 0.3484079 total: 622ms remaining: 1.13s
354: learn: 0.3482563 total: 623ms remaining: 1.13s
355: learn: 0.3480234 total: 625ms remaining: 1.13s
356: learn: 0.3479369 total: 627ms remaining: 1.13s
357: learn: 0.3478446 total: 629ms remaining: 1.13s
358: learn: 0.3476643 total: 630ms remaining: 1.13s
359: learn: 0.3475239 total: 633ms remaining: 1.13s
360: learn: 0.3474423 total: 634ms remaining: 1.12s
361: learn: 0.3472077 total: 636ms remaining: 1.12s
362: learn: 0.3470455 total: 638ms remaining: 1.12s
363: learn: 0.3469012 total: 640ms remaining: 1.12s
364: learn: 0.3467709 total: 642ms remaining: 1.12s
365: learn: 0.3467357 total: 643ms remaining: 1.11s
366: learn: 0.3466006 total: 645ms remaining: 1.11s
367: learn: 0.3464419 total: 647ms remaining: 1.11s
368: learn: 0.3464078 total: 648ms remaining: 1.11s
369: learn: 0.3462126 total: 650ms remaining: 1.11s
370: learn: 0.3461676 total: 651ms remaining: 1.1s
371: learn: 0.3460484 total: 653ms remaining: 1.1s
372: learn: 0.3459525 total: 654ms remaining: 1.1s
373: learn: 0.3458316 total: 655ms remaining: 1.1s
374: learn: 0.3455661 total: 657ms remaining: 1.09s
375: learn: 0.3454596 total: 658ms remaining: 1.09s
376: learn: 0.3453355 total: 660ms remaining: 1.09s
377: learn: 0.3452260 total: 661ms remaining: 1.09s
378: learn: 0.3451884 total: 663ms remaining: 1.09s
379: learn: 0.3451056 total: 665ms remaining: 1.08s
380: learn: 0.3449744 total: 666ms remaining: 1.08s
381: learn: 0.3447401 total: 668ms remaining: 1.08s
382: learn: 0.3445725 total: 671ms remaining: 1.08s
383: learn: 0.3443773 total: 673ms remaining: 1.08s
384: learn: 0.3442460 total: 674ms remaining: 1.08s
385: learn: 0.3440787 total: 676ms remaining: 1.07s
386: learn: 0.3439847 total: 678ms remaining: 1.07s
387: learn: 0.3439452 total: 679ms remaining: 1.07s
388: learn: 0.3438921 total: 681ms remaining: 1.07s
389: learn: 0.3438028 total: 683ms remaining: 1.07s
390: learn: 0.3435773 total: 684ms remaining: 1.07s
391: learn: 0.3434679 total: 686ms remaining: 1.06s
392: learn: 0.3434118 total: 688ms remaining: 1.06s
393: learn: 0.3432918 total: 692ms remaining: 1.06s
394: learn: 0.3430860 total: 694ms remaining: 1.06s
395: learn: 0.3430222 total: 695ms remaining: 1.06s
396: learn: 0.3429117 total: 698ms remaining: 1.06s
397: learn: 0.3427606 total: 700ms remaining: 1.06s
398: learn: 0.3426145 total: 703ms remaining: 1.06s
399: learn: 0.3425395 total: 705ms remaining: 1.06s
400: ----- 0.3421755 +----- 700ms ----- 1.06s
```

```
400: learn: 0.3421750 total: 709ms remaining: 1.00s
401: learn: 0.3419898 total: 711ms remaining: 1.06s
402: learn: 0.3418092 total: 713ms remaining: 1.06s
403: learn: 0.3415344 total: 715ms remaining: 1.05s
404: learn: 0.3414100 total: 716ms remaining: 1.05s
405: learn: 0.3413624 total: 718ms remaining: 1.05s
406: learn: 0.3411924 total: 720ms remaining: 1.05s
407: learn: 0.3411036 total: 721ms remaining: 1.05s
408: learn: 0.3410756 total: 723ms remaining: 1.04s
409: learn: 0.3410724 total: 724ms remaining: 1.04s
410: learn: 0.3408725 total: 727ms remaining: 1.04s
411: learn: 0.3407916 total: 729ms remaining: 1.04s
412: learn: 0.3406844 total: 731ms remaining: 1.04s
413: learn: 0.3404090 total: 732ms remaining: 1.04s
414: learn: 0.3403980 total: 734ms remaining: 1.03s
415: learn: 0.3402561 total: 736ms remaining: 1.03s
416: learn: 0.3400374 total: 737ms remaining: 1.03s
417: learn: 0.3399516 total: 739ms remaining: 1.03s
418: learn: 0.3398016 total: 742ms remaining: 1.03s
419: learn: 0.3396561 total: 744ms remaining: 1.03s
420: learn: 0.3395297 total: 745ms remaining: 1.02s
421: learn: 0.3395238 total: 746ms remaining: 1.02s
422: learn: 0.3394476 total: 748ms remaining: 1.02s
423: learn: 0.3391982 total: 750ms remaining: 1.02s
424: learn: 0.3390671 total: 752ms remaining: 1.02s
425: learn: 0.3389720 total: 754ms remaining: 1.01s
426: learn: 0.3387385 total: 756ms remaining: 1.01s
427: learn: 0.3386384 total: 758ms remaining: 1.01s
428: learn: 0.3383603 total: 760ms remaining: 1.01s
429: learn: 0.3381437 total: 763ms remaining: 1.01s
430: learn: 0.3379679 total: 764ms remaining: 1.01s
431: learn: 0.3377385 total: 766ms remaining: 1.01s
432: learn: 0.3376706 total: 768ms remaining: 1s
433: learn: 0.3375539 total: 771ms remaining: 1.01s
434: learn: 0.3373854 total: 774ms remaining: 1s
435: learn: 0.3373260 total: 777ms remaining: 1s
436: learn: 0.3371505 total: 779ms remaining: 1s
437: learn: 0.3370978 total: 781ms remaining: 1s
438: learn: 0.3370412 total: 783ms remaining: 1s
439: learn: 0.3368537 total: 784ms remaining: 997ms
440: learn: 0.3367726 total: 787ms remaining: 997ms
441: learn: 0.3365139 total: 790ms remaining: 997ms
442: learn: 0.3364019 total: 792ms remaining: 995ms
443: learn: 0.3363871 total: 795ms remaining: 995ms
444: learn: 0.3362310 total: 796ms remaining: 993ms
445: learn: 0.3360864 total: 798ms remaining: 992ms
446: learn: 0.3360674 total: 799ms remaining: 989ms
447: learn: 0.3360523 total: 800ms remaining: 986ms
448: learn: 0.3359644 total: 802ms remaining: 984ms
449: learn: 0.3357076 total: 805ms remaining: 984ms
450: learn: 0.3355539 total: 808ms remaining: 984ms
451: learn: 0.3355253 total: 811ms remaining: 983ms
452: learn: 0.3353724 total: 813ms remaining: 981ms
453: learn: 0.3351841 total: 814ms remaining: 979ms
454: learn: 0.3348289 total: 818ms remaining: 980ms
455: learn: 0.3347808 total: 820ms remaining: 978ms
456: learn: 0.3347785 total: 823ms remaining: 978ms
457: learn: 0.3345432 total: 826ms remaining: 977ms
458: learn: 0.3344062 total: 827ms remaining: 975ms
459: learn: 0.3342281 total: 829ms remaining: 973ms
460: learn: 0.3340434 total: 831ms remaining: 972ms
461: learn: 0.3339615 total: 834ms remaining: 971ms
462: learn: 0.3338418 total: 837ms remaining: 971ms
463: learn: 0.3336929 total: 839ms remaining: 969ms
464: learn: 0.3336128 total: 841ms remaining: 968ms
465: learn: 0.3334990 total: 844ms remaining: 967ms
466: learn: 0.3334211 total: 846ms remaining: 965ms
467: learn: 0.3333859 total: 847ms remaining: 963ms
468: learn: 0.3332399 total: 849ms remaining: 962ms
469: learn: 0.3330433 total: 852ms remaining: 960ms
470: learn: 0.3328191 total: 853ms remaining: 958ms
471: learn: 0.3326590 total: 856ms remaining: 957ms
472: learn: 0.3324222 total: 859ms remaining: 956ms
```

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472: learn: 0.3324292 total: 858ms remaining: 950ms
473: learn: 0.3322415 total: 859ms remaining: 954ms
474: learn: 0.3321949 total: 863ms remaining: 953ms
475: learn: 0.3320571 total: 865ms remaining: 952ms
476: learn: 0.3319982 total: 867ms remaining: 950ms
477: learn: 0.3318994 total: 869ms remaining: 949ms
478: learn: 0.3318478 total: 871ms remaining: 947ms
479: learn: 0.3317739 total: 873ms remaining: 945ms
480: learn: 0.3316346 total: 874ms remaining: 943ms
481: learn: 0.3315226 total: 877ms remaining: 942ms
482: learn: 0.3312435 total: 878ms remaining: 940ms
483: learn: 0.3311126 total: 880ms remaining: 938ms
484: learn: 0.3311076 total: 881ms remaining: 936ms
485: learn: 0.3309333 total: 883ms remaining: 934ms
486: learn: 0.3307946 total: 885ms remaining: 932ms
487: learn: 0.3306953 total: 887ms remaining: 931ms
488: learn: 0.3305836 total: 888ms remaining: 928ms
489: learn: 0.3304824 total: 890ms remaining: 926ms
490: learn: 0.3304054 total: 892ms remaining: 925ms
491: learn: 0.3301009 total: 894ms remaining: 923ms
492: learn: 0.3299143 total: 896ms remaining: 922ms
493: learn: 0.3298060 total: 899ms remaining: 921ms
494: learn: 0.3297923 total: 901ms remaining: 919ms
495: learn: 0.3296617 total: 903ms remaining: 918ms
496: learn: 0.3295230 total: 905ms remaining: 916ms
497: learn: 0.3294305 total: 907ms remaining: 915ms
498: learn: 0.3293267 total: 909ms remaining: 913ms
499: learn: 0.3292260 total: 911ms remaining: 911ms
500: learn: 0.3291695 total: 914ms remaining: 910ms
501: learn: 0.3290367 total: 915ms remaining: 908ms
502: learn: 0.3289125 total: 918ms remaining: 907ms
503: learn: 0.3287147 total: 919ms remaining: 904ms
504: learn: 0.3284568 total: 921ms remaining: 903ms
505: learn: 0.3282816 total: 923ms remaining: 901ms
506: learn: 0.3281568 total: 925ms remaining: 899ms
507: learn: 0.3280350 total: 926ms remaining: 897ms
508: learn: 0.3279372 total: 929ms remaining: 896ms
509: learn: 0.3277389 total: 931ms remaining: 895ms
510: learn: 0.3275036 total: 933ms remaining: 893ms
511: learn: 0.3274198 total: 935ms remaining: 891ms
512: learn: 0.3272569 total: 937ms remaining: 890ms
513: learn: 0.3271109 total: 939ms remaining: 887ms
514: learn: 0.3269047 total: 940ms remaining: 885ms
515: learn: 0.3267371 total: 942ms remaining: 884ms
516: learn: 0.3267142 total: 943ms remaining: 881ms
517: learn: 0.3266242 total: 946ms remaining: 880ms
518: learn: 0.3265950 total: 947ms remaining: 878ms
519: learn: 0.3264563 total: 950ms remaining: 877ms
520: learn: 0.3263865 total: 952ms remaining: 876ms
521: learn: 0.3263723 total: 953ms remaining: 873ms
522: learn: 0.3263014 total: 955ms remaining: 871ms
523: learn: 0.3261901 total: 957ms remaining: 869ms
524: learn: 0.3259344 total: 959ms remaining: 868ms
525: learn: 0.3257857 total: 961ms remaining: 866ms
526: learn: 0.3257319 total: 962ms remaining: 864ms
527: learn: 0.3257272 total: 964ms remaining: 861ms
528: learn: 0.3256990 total: 965ms remaining: 859ms
529: learn: 0.3255492 total: 967ms remaining: 857ms
530: learn: 0.3254324 total: 968ms remaining: 855ms
531: learn: 0.3252718 total: 970ms remaining: 854ms
532: learn: 0.3251023 total: 972ms remaining: 851ms
533: learn: 0.3250383 total: 973ms remaining: 849ms
534: learn: 0.3250001 total: 974ms remaining: 846ms
535: learn: 0.3248772 total: 975ms remaining: 844ms
536: learn: 0.3248679 total: 976ms remaining: 842ms
537: learn: 0.3247401 total: 977ms remaining: 839ms
538: learn: 0.3245467 total: 980ms remaining: 838ms
539: learn: 0.3244075 total: 982ms remaining: 836ms
540: learn: 0.3242072 total: 984ms remaining: 835ms
541: learn: 0.3241604 total: 985ms remaining: 833ms
542: learn: 0.3239865 total: 987ms remaining: 830ms
543: learn: 0.3239303 total: 988ms remaining: 828ms
```

```
544: learn: 0.3251500 total: 99ms remaining: 820ms
545: learn: 0.3236592 total: 991ms remaining: 824ms
546: learn: 0.3236312 total: 992ms remaining: 822ms
547: learn: 0.3235756 total: 994ms remaining: 820ms
548: learn: 0.3235134 total: 995ms remaining: 818ms
549: learn: 0.3233803 total: 997ms remaining: 816ms
550: learn: 0.3232700 total: 999ms remaining: 814ms
551: learn: 0.3231477 total: 1s remaining: 812ms
552: learn: 0.3229937 total: 1s remaining: 810ms
553: learn: 0.3228533 total: 1s remaining: 808ms
554: learn: 0.3226956 total: 1s remaining: 806ms
555: learn: 0.3226020 total: 1.01s remaining: 804ms
556: learn: 0.3224511 total: 1.01s remaining: 802ms
557: learn: 0.3224130 total: 1.01s remaining: 800ms
558: learn: 0.3223973 total: 1.01s remaining: 798ms
559: learn: 0.3222775 total: 1.01s remaining: 796ms
560: learn: 0.3220496 total: 1.01s remaining: 794ms
561: learn: 0.3218755 total: 1.02s remaining: 792ms
562: learn: 0.3215259 total: 1.02s remaining: 791ms
563: learn: 0.3213698 total: 1.02s remaining: 789ms
564: learn: 0.3212526 total: 1.02s remaining: 787ms
565: learn: 0.3211272 total: 1.02s remaining: 786ms
566: learn: 0.3209535 total: 1.03s remaining: 784ms
567: learn: 0.3207994 total: 1.03s remaining: 782ms
568: learn: 0.3207422 total: 1.03s remaining: 780ms
569: learn: 0.3206127 total: 1.03s remaining: 779ms
570: learn: 0.3205936 total: 1.03s remaining: 777ms
571: learn: 0.3204866 total: 1.04s remaining: 775ms
572: learn: 0.3204183 total: 1.04s remaining: 773ms
573: learn: 0.3203474 total: 1.04s remaining: 771ms
574: learn: 0.3202713 total: 1.04s remaining: 769ms
575: learn: 0.3202101 total: 1.04s remaining: 767ms
576: learn: 0.3201371 total: 1.04s remaining: 765ms
577: learn: 0.3200909 total: 1.04s remaining: 763ms
578: learn: 0.3199674 total: 1.05s remaining: 761ms
579: learn: 0.3199108 total: 1.05s remaining: 759ms
580: learn: 0.3198089 total: 1.05s remaining: 757ms
581: learn: 0.3195951 total: 1.05s remaining: 755ms
582: learn: 0.3195147 total: 1.05s remaining: 753ms
583: learn: 0.3194242 total: 1.05s remaining: 751ms
584: learn: 0.3190798 total: 1.05s remaining: 749ms
585: learn: 0.3190288 total: 1.06s remaining: 746ms
586: learn: 0.3188976 total: 1.06s remaining: 744ms
587: learn: 0.3188765 total: 1.06s remaining: 742ms
588: learn: 0.3187575 total: 1.06s remaining: 740ms
589: learn: 0.3186727 total: 1.06s remaining: 738ms
590: learn: 0.3184708 total: 1.06s remaining: 736ms
591: learn: 0.3184306 total: 1.06s remaining: 733ms
592: learn: 0.3183230 total: 1.06s remaining: 731ms
593: learn: 0.3182491 total: 1.07s remaining: 729ms
594: learn: 0.3182318 total: 1.07s remaining: 726ms
595: learn: 0.3181439 total: 1.07s remaining: 724ms
596: learn: 0.3180614 total: 1.07s remaining: 723ms
597: learn: 0.3180123 total: 1.07s remaining: 721ms
598: learn: 0.3177561 total: 1.07s remaining: 719ms
599: learn: 0.3175489 total: 1.07s remaining: 717ms
600: learn: 0.3174418 total: 1.08s remaining: 715ms
601: learn: 0.3173537 total: 1.08s remaining: 713ms
602: learn: 0.3172617 total: 1.08s remaining: 711ms
603: learn: 0.3170294 total: 1.08s remaining: 709ms
604: learn: 0.3169547 total: 1.08s remaining: 707ms
605: learn: 0.3168110 total: 1.08s remaining: 705ms
606: learn: 0.3166694 total: 1.08s remaining: 703ms
607: learn: 0.3165433 total: 1.09s remaining: 701ms
608: learn: 0.3164237 total: 1.09s remaining: 699ms
609: learn: 0.3162366 total: 1.09s remaining: 697ms
610: learn: 0.3162153 total: 1.09s remaining: 695ms
611: learn: 0.3161184 total: 1.09s remaining: 693ms
612: learn: 0.3160552 total: 1.09s remaining: 691ms
613: learn: 0.3159109 total: 1.09s remaining: 689ms
614: learn: 0.3157323 total: 1.1s remaining: 686ms
615: learn: 0.3156013 total: 1.1s remaining: 684ms
```

```
610: learn: 0.3154942 total: 1.1s remaining: 682ms
611: learn: 0.3153963 total: 1.1s remaining: 680ms
612: learn: 0.3153261 total: 1.1s remaining: 678ms
613: learn: 0.3151864 total: 1.1s remaining: 676ms
614: learn: 0.3150941 total: 1.1s remaining: 674ms
615: learn: 0.3150400 total: 1.1s remaining: 672ms
616: learn: 0.3148917 total: 1.11s remaining: 670ms
617: learn: 0.3148012 total: 1.11s remaining: 668ms
618: learn: 0.3147183 total: 1.11s remaining: 665ms
619: learn: 0.3145877 total: 1.11s remaining: 663ms
620: learn: 0.3144785 total: 1.11s remaining: 661ms
621: learn: 0.3144121 total: 1.11s remaining: 659ms
622: learn: 0.3142342 total: 1.11s remaining: 657ms
623: learn: 0.3141814 total: 1.11s remaining: 655ms
624: learn: 0.3138583 total: 1.12s remaining: 653ms
625: learn: 0.3136936 total: 1.12s remaining: 651ms
626: learn: 0.3135712 total: 1.12s remaining: 649ms
627: learn: 0.3134026 total: 1.12s remaining: 647ms
628: learn: 0.3132855 total: 1.12s remaining: 645ms
629: learn: 0.3132401 total: 1.12s remaining: 643ms
630: learn: 0.3131976 total: 1.12s remaining: 641ms
631: learn: 0.3131361 total: 1.13s remaining: 639ms
632: learn: 0.3129682 total: 1.13s remaining: 637ms
633: learn: 0.3127431 total: 1.13s remaining: 635ms
634: learn: 0.3126377 total: 1.13s remaining: 633ms
635: learn: 0.3125716 total: 1.13s remaining: 631ms
636: learn: 0.3124050 total: 1.13s remaining: 629ms
637: learn: 0.3123534 total: 1.13s remaining: 627ms
638: learn: 0.3123235 total: 1.14s remaining: 625ms
639: learn: 0.3121958 total: 1.14s remaining: 623ms
640: learn: 0.3121154 total: 1.14s remaining: 621ms
641: learn: 0.3120537 total: 1.14s remaining: 619ms
642: learn: 0.3119129 total: 1.14s remaining: 617ms
643: learn: 0.3117262 total: 1.14s remaining: 615ms
644: learn: 0.3116444 total: 1.14s remaining: 613ms
645: learn: 0.3114279 total: 1.15s remaining: 611ms
646: learn: 0.3112185 total: 1.15s remaining: 610ms
647: learn: 0.3110805 total: 1.15s remaining: 608ms
648: learn: 0.3109194 total: 1.15s remaining: 606ms
649: learn: 0.3107704 total: 1.15s remaining: 604ms
650: learn: 0.3106633 total: 1.15s remaining: 603ms
651: learn: 0.3105898 total: 1.16s remaining: 601ms
652: learn: 0.3104445 total: 1.16s remaining: 599ms
653: learn: 0.3103228 total: 1.16s remaining: 597ms
654: learn: 0.3102481 total: 1.16s remaining: 596ms
655: learn: 0.3101285 total: 1.16s remaining: 594ms
656: learn: 0.3099786 total: 1.16s remaining: 592ms
657: learn: 0.3099071 total: 1.17s remaining: 590ms
658: learn: 0.3098321 total: 1.17s remaining: 588ms
659: learn: 0.3098036 total: 1.17s remaining: 586ms
660: learn: 0.3097948 total: 1.17s remaining: 584ms
661: learn: 0.3094490 total: 1.17s remaining: 582ms
662: learn: 0.3094208 total: 1.17s remaining: 580ms
663: learn: 0.3092607 total: 1.17s remaining: 578ms
664: learn: 0.3091686 total: 1.17s remaining: 576ms
665: learn: 0.3090217 total: 1.18s remaining: 574ms
666: learn: 0.3087956 total: 1.18s remaining: 572ms
667: learn: 0.3086986 total: 1.18s remaining: 570ms
668: learn: 0.3085733 total: 1.18s remaining: 568ms
669: learn: 0.3085015 total: 1.18s remaining: 567ms
670: learn: 0.3084932 total: 1.18s remaining: 565ms
671: learn: 0.3084243 total: 1.19s remaining: 563ms
672: learn: 0.3082752 total: 1.19s remaining: 561ms
673: learn: 0.3080299 total: 1.19s remaining: 560ms
674: learn: 0.3078960 total: 1.19s remaining: 558ms
675: learn: 0.3077504 total: 1.19s remaining: 556ms
676: learn: 0.3076155 total: 1.19s remaining: 554ms
677: learn: 0.3075337 total: 1.2s remaining: 552ms
678: learn: 0.3074955 total: 1.2s remaining: 550ms
679: learn: 0.3073535 total: 1.2s remaining: 548ms
680: learn: 0.3071900 total: 1.2s remaining: 546ms
681: learn: 0.3071315 total: 1.2s remaining: 544ms
682: learn: 0.3070402 total: 1.2s remaining: 542ms
```

008: learn: 0.3009495 total: 1.2s remaining: 542ms
689: learn: 0.3067549 total: 1.2s remaining: 540ms
690: learn: 0.3066155 total: 1.2s remaining: 538ms
691: learn: 0.3064510 total: 1.21s remaining: 536ms
692: learn: 0.3063159 total: 1.21s remaining: 534ms
693: learn: 0.3060764 total: 1.21s remaining: 533ms
694: learn: 0.3060397 total: 1.21s remaining: 531ms
695: learn: 0.3059184 total: 1.21s remaining: 529ms
696: learn: 0.3057752 total: 1.21s remaining: 527ms
697: learn: 0.3056935 total: 1.21s remaining: 525ms
698: learn: 0.3056300 total: 1.21s remaining: 523ms
699: learn: 0.3054107 total: 1.22s remaining: 521ms
700: learn: 0.3054041 total: 1.22s remaining: 519ms
701: learn: 0.3053077 total: 1.22s remaining: 517ms
702: learn: 0.3050396 total: 1.22s remaining: 515ms
703: learn: 0.3049391 total: 1.22s remaining: 514ms
704: learn: 0.3048246 total: 1.22s remaining: 512ms
705: learn: 0.3046969 total: 1.23s remaining: 510ms
706: learn: 0.3046460 total: 1.23s remaining: 508ms
707: learn: 0.3044492 total: 1.23s remaining: 507ms
708: learn: 0.3043644 total: 1.23s remaining: 505ms
709: learn: 0.3042980 total: 1.23s remaining: 503ms
710: learn: 0.3042128 total: 1.23s remaining: 501ms
711: learn: 0.3040662 total: 1.24s remaining: 500ms
712: learn: 0.3038695 total: 1.24s remaining: 498ms
713: learn: 0.3038015 total: 1.24s remaining: 496ms
714: learn: 0.3036952 total: 1.24s remaining: 494ms
715: learn: 0.3035222 total: 1.24s remaining: 493ms
716: learn: 0.3033379 total: 1.24s remaining: 491ms
717: learn: 0.3032242 total: 1.24s remaining: 489ms
718: learn: 0.3031498 total: 1.25s remaining: 487ms
719: learn: 0.3030495 total: 1.25s remaining: 486ms
720: learn: 0.3028792 total: 1.25s remaining: 484ms
721: learn: 0.3027491 total: 1.25s remaining: 482ms
722: learn: 0.3026036 total: 1.25s remaining: 481ms
723: learn: 0.3025227 total: 1.26s remaining: 479ms
724: learn: 0.3023726 total: 1.26s remaining: 477ms
725: learn: 0.3022744 total: 1.26s remaining: 476ms
726: learn: 0.3022026 total: 1.26s remaining: 474ms
727: learn: 0.3021086 total: 1.26s remaining: 472ms
728: learn: 0.3019511 total: 1.27s remaining: 471ms
729: learn: 0.3019005 total: 1.27s remaining: 469ms
730: learn: 0.3018544 total: 1.27s remaining: 467ms
731: learn: 0.3017226 total: 1.27s remaining: 465ms
732: learn: 0.3015917 total: 1.27s remaining: 463ms
733: learn: 0.3014741 total: 1.27s remaining: 461ms
734: learn: 0.3013960 total: 1.27s remaining: 460ms
735: learn: 0.3012053 total: 1.28s remaining: 458ms
736: learn: 0.3011712 total: 1.28s remaining: 456ms
737: learn: 0.3009547 total: 1.28s remaining: 454ms
738: learn: 0.3008765 total: 1.28s remaining: 452ms
739: learn: 0.3007502 total: 1.28s remaining: 450ms
740: learn: 0.3006930 total: 1.28s remaining: 448ms
741: learn: 0.3006390 total: 1.28s remaining: 447ms
742: learn: 0.3003314 total: 1.28s remaining: 445ms
743: learn: 0.3001027 total: 1.29s remaining: 443ms
744: learn: 0.3000372 total: 1.29s remaining: 441ms
745: learn: 0.2999881 total: 1.29s remaining: 439ms
746: learn: 0.2999574 total: 1.29s remaining: 437ms
747: learn: 0.2997630 total: 1.29s remaining: 436ms
748: learn: 0.2996787 total: 1.29s remaining: 434ms
749: learn: 0.2995545 total: 1.29s remaining: 432ms
750: learn: 0.2995179 total: 1.29s remaining: 430ms
751: learn: 0.2994739 total: 1.3s remaining: 428ms
752: learn: 0.2993872 total: 1.3s remaining: 426ms
753: learn: 0.2992157 total: 1.3s remaining: 424ms
754: learn: 0.2991628 total: 1.3s remaining: 423ms
755: learn: 0.2991576 total: 1.3s remaining: 421ms
756: learn: 0.2990008 total: 1.3s remaining: 419ms
757: learn: 0.2988494 total: 1.31s remaining: 417ms
758: learn: 0.2986718 total: 1.31s remaining: 415ms
759: learn: 0.2985325 total: 1.31s remaining: 414ms
760: ----- 0.2984411 +----- 1.31s ----- 412ms

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760: learn: 0.2984411 total: 1.31s remaining: 412ms
761: learn: 0.2983349 total: 1.31s remaining: 410ms
762: learn: 0.2981147 total: 1.31s remaining: 408ms
763: learn: 0.2979948 total: 1.31s remaining: 406ms
764: learn: 0.2978382 total: 1.32s remaining: 405ms
765: learn: 0.2977684 total: 1.32s remaining: 404ms
766: learn: 0.2977158 total: 1.32s remaining: 402ms
767: learn: 0.2976796 total: 1.33s remaining: 401ms
768: learn: 0.2975278 total: 1.33s remaining: 399ms
769: learn: 0.2974358 total: 1.33s remaining: 398ms
770: learn: 0.2972221 total: 1.33s remaining: 397ms
771: learn: 0.2971601 total: 1.34s remaining: 395ms
772: learn: 0.2969826 total: 1.34s remaining: 393ms
773: learn: 0.2968065 total: 1.34s remaining: 392ms
774: learn: 0.2965433 total: 1.34s remaining: 390ms
775: learn: 0.2964414 total: 1.34s remaining: 388ms
776: learn: 0.2963118 total: 1.35s remaining: 387ms
777: learn: 0.2960789 total: 1.35s remaining: 385ms
778: learn: 0.2958735 total: 1.35s remaining: 384ms
779: learn: 0.2957492 total: 1.35s remaining: 382ms
780: learn: 0.2956211 total: 1.35s remaining: 380ms
781: learn: 0.2955372 total: 1.36s remaining: 378ms
782: learn: 0.2954782 total: 1.36s remaining: 377ms
783: learn: 0.2953753 total: 1.36s remaining: 375ms
784: learn: 0.2953486 total: 1.36s remaining: 373ms
785: learn: 0.2951487 total: 1.36s remaining: 372ms
786: learn: 0.2950441 total: 1.37s remaining: 370ms
787: learn: 0.2949594 total: 1.37s remaining: 368ms
788: learn: 0.2948643 total: 1.37s remaining: 367ms
789: learn: 0.2947557 total: 1.37s remaining: 365ms
790: learn: 0.2946354 total: 1.37s remaining: 363ms
791: learn: 0.2945540 total: 1.38s remaining: 362ms
792: learn: 0.2945178 total: 1.38s remaining: 360ms
793: learn: 0.2944104 total: 1.38s remaining: 358ms
794: learn: 0.2942244 total: 1.38s remaining: 356ms
795: learn: 0.2940819 total: 1.38s remaining: 355ms
796: learn: 0.2939755 total: 1.39s remaining: 353ms
797: learn: 0.2938948 total: 1.39s remaining: 351ms
798: learn: 0.2938157 total: 1.39s remaining: 350ms
799: learn: 0.2937849 total: 1.39s remaining: 348ms
800: learn: 0.2935843 total: 1.39s remaining: 346ms
801: learn: 0.2934963 total: 1.39s remaining: 344ms
802: learn: 0.2933761 total: 1.4s remaining: 342ms
803: learn: 0.2933268 total: 1.4s remaining: 341ms
804: learn: 0.2932328 total: 1.4s remaining: 339ms
805: learn: 0.2931541 total: 1.4s remaining: 337ms
806: learn: 0.2930431 total: 1.4s remaining: 336ms
807: learn: 0.2928664 total: 1.41s remaining: 334ms
808: learn: 0.2927760 total: 1.41s remaining: 332ms
809: learn: 0.2925667 total: 1.41s remaining: 331ms
810: learn: 0.2924140 total: 1.41s remaining: 329ms
811: learn: 0.2923620 total: 1.41s remaining: 328ms
812: learn: 0.2923114 total: 1.42s remaining: 326ms
813: learn: 0.2921857 total: 1.42s remaining: 324ms
814: learn: 0.2921198 total: 1.42s remaining: 323ms
815: learn: 0.2920114 total: 1.42s remaining: 321ms
816: learn: 0.2918151 total: 1.42s remaining: 319ms
817: learn: 0.2917210 total: 1.43s remaining: 317ms
818: learn: 0.2916808 total: 1.43s remaining: 316ms
819: learn: 0.2915799 total: 1.43s remaining: 314ms
820: learn: 0.2914968 total: 1.43s remaining: 312ms
821: learn: 0.2914303 total: 1.43s remaining: 310ms
822: learn: 0.2913280 total: 1.44s remaining: 309ms
823: learn: 0.2911574 total: 1.44s remaining: 307ms
824: learn: 0.2910669 total: 1.44s remaining: 305ms
825: learn: 0.2908270 total: 1.44s remaining: 304ms
826: learn: 0.2906955 total: 1.44s remaining: 302ms
827: learn: 0.2906195 total: 1.45s remaining: 300ms
828: learn: 0.2905731 total: 1.45s remaining: 298ms
829: learn: 0.2904447 total: 1.45s remaining: 297ms
830: learn: 0.2903536 total: 1.45s remaining: 295ms
831: learn: 0.2902524 total: 1.45s remaining: 293ms
832: learn: 0.2901512 total: 1.45s remaining: 291ms
```

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852: learn: 0.2890205 total: 1.45s remaining: 291ms
833: learn: 0.2901534 total: 1.45s remaining: 289ms
834: learn: 0.2900632 total: 1.46s remaining: 288ms
835: learn: 0.2900065 total: 1.46s remaining: 286ms
836: learn: 0.2899374 total: 1.46s remaining: 284ms
837: learn: 0.2898568 total: 1.46s remaining: 282ms
838: learn: 0.2897979 total: 1.46s remaining: 281ms
839: learn: 0.2897601 total: 1.46s remaining: 279ms
840: learn: 0.2896012 total: 1.46s remaining: 277ms
841: learn: 0.2895210 total: 1.47s remaining: 275ms
842: learn: 0.2893467 total: 1.47s remaining: 273ms
843: learn: 0.2892090 total: 1.47s remaining: 272ms
844: learn: 0.2890116 total: 1.47s remaining: 270ms
845: learn: 0.2887473 total: 1.47s remaining: 268ms
846: learn: 0.2886007 total: 1.47s remaining: 266ms
847: learn: 0.2885379 total: 1.48s remaining: 264ms
848: learn: 0.2884625 total: 1.48s remaining: 263ms
849: learn: 0.2884256 total: 1.48s remaining: 261ms
850: learn: 0.2883630 total: 1.48s remaining: 259ms
851: learn: 0.2882381 total: 1.48s remaining: 257ms
852: learn: 0.2882126 total: 1.48s remaining: 256ms
853: learn: 0.2880335 total: 1.49s remaining: 254ms
854: learn: 0.2879637 total: 1.49s remaining: 252ms
855: learn: 0.2878805 total: 1.49s remaining: 251ms
856: learn: 0.2878177 total: 1.49s remaining: 249ms
857: learn: 0.2876908 total: 1.49s remaining: 247ms
858: learn: 0.2874219 total: 1.5s remaining: 245ms
859: learn: 0.2873698 total: 1.5s remaining: 244ms
860: learn: 0.2872261 total: 1.5s remaining: 242ms
861: learn: 0.2871165 total: 1.5s remaining: 241ms
862: learn: 0.2870274 total: 1.51s remaining: 240ms
863: learn: 0.2869010 total: 1.51s remaining: 238ms
864: learn: 0.2868181 total: 1.51s remaining: 236ms
865: learn: 0.2867183 total: 1.52s remaining: 235ms
866: learn: 0.2865942 total: 1.52s remaining: 233ms
867: learn: 0.2865104 total: 1.52s remaining: 231ms
868: learn: 0.2864252 total: 1.52s remaining: 229ms
869: learn: 0.2863068 total: 1.52s remaining: 228ms
870: learn: 0.2861963 total: 1.52s remaining: 226ms
871: learn: 0.2861424 total: 1.53s remaining: 224ms
872: learn: 0.2860560 total: 1.53s remaining: 222ms
873: learn: 0.2859687 total: 1.53s remaining: 221ms
874: learn: 0.2859082 total: 1.53s remaining: 219ms
875: learn: 0.2858538 total: 1.53s remaining: 217ms
876: learn: 0.2858078 total: 1.53s remaining: 215ms
877: learn: 0.2857463 total: 1.53s remaining: 213ms
878: learn: 0.2856800 total: 1.54s remaining: 212ms
879: learn: 0.2855043 total: 1.54s remaining: 210ms
880: learn: 0.2853746 total: 1.54s remaining: 208ms
881: learn: 0.2849959 total: 1.54s remaining: 206ms
882: learn: 0.2849551 total: 1.54s remaining: 205ms
883: learn: 0.2849224 total: 1.54s remaining: 203ms
884: learn: 0.2847906 total: 1.55s remaining: 201ms
885: learn: 0.2845678 total: 1.55s remaining: 199ms
886: learn: 0.2845471 total: 1.55s remaining: 197ms
887: learn: 0.2844078 total: 1.55s remaining: 196ms
888: learn: 0.2842765 total: 1.55s remaining: 194ms
889: learn: 0.2841951 total: 1.55s remaining: 192ms
890: learn: 0.2841335 total: 1.56s remaining: 190ms
891: learn: 0.2840352 total: 1.56s remaining: 189ms
892: learn: 0.2839585 total: 1.56s remaining: 187ms
893: learn: 0.2838457 total: 1.56s remaining: 185ms
894: learn: 0.2837659 total: 1.56s remaining: 183ms
895: learn: 0.2836424 total: 1.56s remaining: 182ms
896: learn: 0.2833619 total: 1.57s remaining: 180ms
897: learn: 0.2833071 total: 1.57s remaining: 178ms
898: learn: 0.2830808 total: 1.57s remaining: 176ms
899: learn: 0.2830227 total: 1.57s remaining: 175ms
900: learn: 0.2829258 total: 1.57s remaining: 173ms
901: learn: 0.2827161 total: 1.57s remaining: 171ms
902: learn: 0.2824735 total: 1.57s remaining: 169ms
903: learn: 0.2823216 total: 1.58s remaining: 168ms
904: learn: 0.2821960 total: 1.58s remaining: 166ms
```

```
904: learn: 0.2820460 total: 1.58s remaining: 100ms
905: learn: 0.2819463 total: 1.58s remaining: 164ms
906: learn: 0.2818345 total: 1.58s remaining: 162ms
907: learn: 0.2817070 total: 1.58s remaining: 160ms
908: learn: 0.2816144 total: 1.58s remaining: 159ms
909: learn: 0.2815185 total: 1.58s remaining: 157ms
910: learn: 0.2814292 total: 1.59s remaining: 155ms
911: learn: 0.2813229 total: 1.59s remaining: 153ms
912: learn: 0.2812418 total: 1.59s remaining: 152ms
913: learn: 0.2811517 total: 1.59s remaining: 150ms
914: learn: 0.2809691 total: 1.59s remaining: 148ms
915: learn: 0.2809020 total: 1.59s remaining: 146ms
916: learn: 0.2808362 total: 1.6s remaining: 145ms
917: learn: 0.2807456 total: 1.6s remaining: 143ms
918: learn: 0.2806774 total: 1.6s remaining: 141ms
919: learn: 0.2805967 total: 1.6s remaining: 139ms
920: learn: 0.2804135 total: 1.6s remaining: 138ms
921: learn: 0.2802288 total: 1.6s remaining: 136ms
922: learn: 0.2801334 total: 1.61s remaining: 134ms
923: learn: 0.2799996 total: 1.61s remaining: 132ms
924: learn: 0.2798774 total: 1.61s remaining: 131ms
925: learn: 0.2797242 total: 1.61s remaining: 129ms
926: learn: 0.2795286 total: 1.61s remaining: 127ms
927: learn: 0.2794710 total: 1.61s remaining: 125ms
928: learn: 0.2793186 total: 1.61s remaining: 123ms
929: learn: 0.2792662 total: 1.62s remaining: 122ms
930: learn: 0.2791387 total: 1.62s remaining: 120ms
931: learn: 0.2788874 total: 1.62s remaining: 118ms
932: learn: 0.2787810 total: 1.62s remaining: 116ms
933: learn: 0.2785359 total: 1.62s remaining: 115ms
934: learn: 0.2782864 total: 1.63s remaining: 113ms
935: learn: 0.2782364 total: 1.63s remaining: 111ms
936: learn: 0.2781577 total: 1.63s remaining: 109ms
937: learn: 0.2781049 total: 1.63s remaining: 108ms
938: learn: 0.2780262 total: 1.63s remaining: 106ms
939: learn: 0.2779000 total: 1.63s remaining: 104ms
940: learn: 0.2778651 total: 1.63s remaining: 102ms
941: learn: 0.2777881 total: 1.64s remaining: 101ms
942: learn: 0.2775669 total: 1.64s remaining: 99ms
943: learn: 0.2774778 total: 1.64s remaining: 97.3ms
944: learn: 0.2773867 total: 1.64s remaining: 95.5ms
945: learn: 0.2773436 total: 1.64s remaining: 93.8ms
946: learn: 0.2772294 total: 1.64s remaining: 92ms
947: learn: 0.2770199 total: 1.65s remaining: 90.3ms
948: learn: 0.2769432 total: 1.65s remaining: 88.5ms
949: learn: 0.2768562 total: 1.65s remaining: 86.8ms
950: learn: 0.2767053 total: 1.65s remaining: 85ms
951: learn: 0.2765552 total: 1.65s remaining: 83.3ms
952: learn: 0.2764256 total: 1.65s remaining: 81.5ms
953: learn: 0.2763859 total: 1.65s remaining: 79.7ms
954: learn: 0.2763032 total: 1.65s remaining: 77.9ms
955: learn: 0.2762157 total: 1.66s remaining: 76.2ms
956: learn: 0.2761614 total: 1.66s remaining: 74.4ms
957: learn: 0.2760341 total: 1.66s remaining: 72.7ms
958: learn: 0.2758778 total: 1.66s remaining: 70.9ms
959: learn: 0.2758103 total: 1.66s remaining: 69.2ms
960: learn: 0.2757329 total: 1.66s remaining: 67.4ms
961: learn: 0.2756788 total: 1.66s remaining: 65.7ms
962: learn: 0.2755426 total: 1.66s remaining: 63.9ms
963: learn: 0.2754601 total: 1.67s remaining: 62.2ms
964: learn: 0.2754429 total: 1.67s remaining: 60.5ms
965: learn: 0.2753706 total: 1.67s remaining: 58.7ms
966: learn: 0.2753067 total: 1.67s remaining: 57ms
967: learn: 0.2752289 total: 1.67s remaining: 55.2ms
968: learn: 0.2750765 total: 1.67s remaining: 53.5ms
969: learn: 0.2750251 total: 1.67s remaining: 51.8ms
970: learn: 0.2749378 total: 1.68s remaining: 50ms
971: learn: 0.2748460 total: 1.68s remaining: 48.3ms
972: learn: 0.2747106 total: 1.68s remaining: 46.6ms
973: learn: 0.2746069 total: 1.68s remaining: 44.8ms
974: learn: 0.2745628 total: 1.68s remaining: 43.1ms
975: learn: 0.2743987 total: 1.68s remaining: 41.4ms
976: learn: 0.2742507 total: 1.68s remaining: 39.7ms
```

```
976: learn: 0.2737787 total: 1.69s remaining: 59.7ms
977: learn: 0.2742181 total: 1.69s remaining: 38ms
978: learn: 0.2741310 total: 1.69s remaining: 36.2ms
979: learn: 0.2739881 total: 1.69s remaining: 34.5ms
980: learn: 0.2739163 total: 1.69s remaining: 32.8ms
981: learn: 0.2738509 total: 1.69s remaining: 31ms
982: learn: 0.2737787 total: 1.69s remaining: 29.3ms
983: learn: 0.2737311 total: 1.7s remaining: 27.6ms
984: learn: 0.2736076 total: 1.7s remaining: 25.8ms
985: learn: 0.2735421 total: 1.7s remaining: 24.1ms
986: learn: 0.2734852 total: 1.7s remaining: 22.4ms
987: learn: 0.2733917 total: 1.7s remaining: 20.6ms
988: learn: 0.2733293 total: 1.7s remaining: 18.9ms
989: learn: 0.2730990 total: 1.7s remaining: 17.2ms
990: learn: 0.2730365 total: 1.7s remaining: 15.5ms
991: learn: 0.2729485 total: 1.71s remaining: 13.8ms
992: learn: 0.2727718 total: 1.71s remaining: 12ms
993: learn: 0.2727012 total: 1.71s remaining: 10.3ms
994: learn: 0.2726062 total: 1.71s remaining: 8.59ms
995: learn: 0.2724622 total: 1.71s remaining: 6.87ms
996: learn: 0.2722898 total: 1.71s remaining: 5.15ms
997: learn: 0.2721951 total: 1.71s remaining: 3.43ms
998: learn: 0.2720596 total: 1.72s remaining: 1.72ms
999: learn: 0.2719870 total: 1.72s remaining: 0us
Learning rate set to 0.009376
0: learn: 0.6870720 total: 1.22ms remaining: 1.22s
1: learn: 0.6836316 total: 1.83ms remaining: 914ms
2: learn: 0.6782466 total: 3.11ms remaining: 1.03s
3: learn: 0.6726155 total: 4.52ms remaining: 1.13s
4: learn: 0.6672615 total: 5.54ms remaining: 1.1s
5: learn: 0.6620676 total: 7.13ms remaining: 1.18s
6: learn: 0.6577458 total: 8.08ms remaining: 1.15s
7: learn: 0.6523884 total: 9.22ms remaining: 1.14s
8: learn: 0.6473924 total: 10.6ms remaining: 1.16s
9: learn: 0.6417101 total: 12ms remaining: 1.19s
10: learn: 0.6363925 total: 13.3ms remaining: 1.2s
11: learn: 0.6315151 total: 14.3ms remaining: 1.18s
12: learn: 0.6270662 total: 15.1ms remaining: 1.14s
13: learn: 0.6226990 total: 16.2ms remaining: 1.14s
14: learn: 0.6185230 total: 16.9ms remaining: 1.11s
15: learn: 0.6142648 total: 18.1ms remaining: 1.11s
16: learn: 0.6099159 total: 19.4ms remaining: 1.12s
17: learn: 0.6061084 total: 20.7ms remaining: 1.13s
18: learn: 0.6020574 total: 22.1ms remaining: 1.14s
19: learn: 0.5974126 total: 23.6ms remaining: 1.16s
20: learn: 0.5935405 total: 24.6ms remaining: 1.15s
21: learn: 0.5893255 total: 25.8ms remaining: 1.15s
22: learn: 0.5853872 total: 27.5ms remaining: 1.17s
23: learn: 0.5814954 total: 29.4ms remaining: 1.19s
24: learn: 0.5775641 total: 30.9ms remaining: 1.21s
25: learn: 0.5736709 total: 32.1ms remaining: 1.2s
26: learn: 0.5700531 total: 33.1ms remaining: 1.19s
27: learn: 0.5664320 total: 34.6ms remaining: 1.2s
28: learn: 0.5627143 total: 36.1ms remaining: 1.21s
29: learn: 0.5594237 total: 37.7ms remaining: 1.22s
30: learn: 0.5559559 total: 39.1ms remaining: 1.22s
31: learn: 0.5532708 total: 40ms remaining: 1.21s
32: learn: 0.5501841 total: 41.2ms remaining: 1.21s
33: learn: 0.5475768 total: 42.7ms remaining: 1.21s
34: learn: 0.5456383 total: 44.2ms remaining: 1.22s
35: learn: 0.5431224 total: 45.4ms remaining: 1.22s
36: learn: 0.5408347 total: 46.2ms remaining: 1.2s
37: learn: 0.5376886 total: 47.8ms remaining: 1.21s
38: learn: 0.5349569 total: 49.1ms remaining: 1.21s
39: learn: 0.5323619 total: 50.6ms remaining: 1.21s
40: learn: 0.5302200 total: 52.2ms remaining: 1.22s
41: learn: 0.5288894 total: 53ms remaining: 1.21s
42: learn: 0.5256725 total: 54.6ms remaining: 1.21s
43: learn: 0.5230611 total: 56ms remaining: 1.22s
44: learn: 0.5203702 total: 57.3ms remaining: 1.22s
45: learn: 0.5176744 total: 58.7ms remaining: 1.22s
46: learn: 0.5156881 total: 60.4ms remaining: 1.23s
47: learn: 0.5102124 total: 61.9ms remaining: 1.22s
```

```
47: learn: 0.5129515 total: 61.0ms remaining: 1.22s
48: learn: 0.5106715 total: 63.1ms remaining: 1.22s
49: learn: 0.5083803 total: 64.5ms remaining: 1.22s
50: learn: 0.5065186 total: 65.7ms remaining: 1.22s
51: learn: 0.5042916 total: 67.3ms remaining: 1.23s
52: learn: 0.5021545 total: 68.7ms remaining: 1.23s
53: learn: 0.5002735 total: 70.3ms remaining: 1.23s
54: learn: 0.4983232 total: 72.2ms remaining: 1.24s
55: learn: 0.4964379 total: 74.2ms remaining: 1.25s
56: learn: 0.4942771 total: 75.8ms remaining: 1.25s
57: learn: 0.4921228 total: 77.8ms remaining: 1.26s
58: learn: 0.4905165 total: 79.3ms remaining: 1.26s
59: learn: 0.4890143 total: 80.4ms remaining: 1.26s
60: learn: 0.4870678 total: 82.5ms remaining: 1.27s
61: learn: 0.4853801 total: 83.8ms remaining: 1.27s
62: learn: 0.4835807 total: 85.7ms remaining: 1.27s
63: learn: 0.4816805 total: 87.5ms remaining: 1.28s
64: learn: 0.4803813 total: 89.3ms remaining: 1.28s
65: learn: 0.4784449 total: 90.8ms remaining: 1.28s
66: learn: 0.4768813 total: 92.3ms remaining: 1.28s
67: learn: 0.4753175 total: 93.8ms remaining: 1.28s
68: learn: 0.4738060 total: 95.6ms remaining: 1.29s
69: learn: 0.4721525 total: 97.2ms remaining: 1.29s
70: learn: 0.4704949 total: 98.9ms remaining: 1.29s
71: learn: 0.4688355 total: 100ms remaining: 1.29s
72: learn: 0.4675127 total: 102ms remaining: 1.29s
73: learn: 0.4661282 total: 105ms remaining: 1.31s
74: learn: 0.4644363 total: 106ms remaining: 1.31s
75: learn: 0.4631644 total: 108ms remaining: 1.31s
76: learn: 0.4617190 total: 110ms remaining: 1.31s
77: learn: 0.4608319 total: 111ms remaining: 1.31s
78: learn: 0.4598351 total: 113ms remaining: 1.31s
79: learn: 0.4585495 total: 114ms remaining: 1.31s
80: learn: 0.4572515 total: 115ms remaining: 1.31s
81: learn: 0.4558086 total: 117ms remaining: 1.31s
82: learn: 0.4544961 total: 118ms remaining: 1.31s
83: learn: 0.4536558 total: 120ms remaining: 1.31s
84: learn: 0.4525595 total: 122ms remaining: 1.31s
85: learn: 0.4514230 total: 123ms remaining: 1.31s
86: learn: 0.4500229 total: 125ms remaining: 1.31s
87: learn: 0.4489631 total: 127ms remaining: 1.32s
88: learn: 0.4477743 total: 129ms remaining: 1.32s
89: learn: 0.4465490 total: 131ms remaining: 1.32s
90: learn: 0.4454852 total: 133ms remaining: 1.32s
91: learn: 0.4445604 total: 134ms remaining: 1.32s
92: learn: 0.4435213 total: 136ms remaining: 1.32s
93: learn: 0.4425833 total: 137ms remaining: 1.32s
94: learn: 0.4412698 total: 139ms remaining: 1.32s
95: learn: 0.4400763 total: 140ms remaining: 1.32s
96: learn: 0.4388264 total: 141ms remaining: 1.31s
97: learn: 0.4381534 total: 143ms remaining: 1.31s
98: learn: 0.4373320 total: 144ms remaining: 1.31s
99: learn: 0.4362760 total: 147ms remaining: 1.32s
100: learn: 0.4352868 total: 149ms remaining: 1.32s
101: learn: 0.4344053 total: 150ms remaining: 1.32s
102: learn: 0.4333991 total: 152ms remaining: 1.32s
103: learn: 0.4325435 total: 154ms remaining: 1.33s
104: learn: 0.4313914 total: 156ms remaining: 1.33s
105: learn: 0.4304050 total: 158ms remaining: 1.33s
106: learn: 0.4296329 total: 160ms remaining: 1.33s
107: learn: 0.4285543 total: 161ms remaining: 1.33s
108: learn: 0.4276701 total: 163ms remaining: 1.33s
109: learn: 0.4267561 total: 164ms remaining: 1.33s
110: learn: 0.4258022 total: 166ms remaining: 1.33s
111: learn: 0.4252822 total: 167ms remaining: 1.33s
112: learn: 0.4245512 total: 169ms remaining: 1.32s
113: learn: 0.4240501 total: 170ms remaining: 1.32s
114: learn: 0.4233417 total: 172ms remaining: 1.32s
115: learn: 0.4227918 total: 174ms remaining: 1.32s
116: learn: 0.4222295 total: 175ms remaining: 1.32s
117: learn: 0.4217048 total: 177ms remaining: 1.32s
118: learn: 0.4209865 total: 179ms remaining: 1.32s
119: ----- 0.4202205 +----- 1.32s
```

```
119: learn: 0.4202220 total: 101ms remaining: 1.33s
120: learn: 0.4194107 total: 183ms remaining: 1.33s
121: learn: 0.4188343 total: 185ms remaining: 1.33s
122: learn: 0.4181962 total: 187ms remaining: 1.33s
123: learn: 0.4176065 total: 189ms remaining: 1.33s
124: learn: 0.4171265 total: 191ms remaining: 1.33s
125: learn: 0.4167247 total: 192ms remaining: 1.33s
126: learn: 0.4159616 total: 194ms remaining: 1.33s
127: learn: 0.4154708 total: 195ms remaining: 1.33s
128: learn: 0.4148567 total: 197ms remaining: 1.33s
129: learn: 0.4142140 total: 200ms remaining: 1.34s
130: learn: 0.4135255 total: 202ms remaining: 1.34s
131: learn: 0.4128749 total: 203ms remaining: 1.34s
132: learn: 0.4122640 total: 205ms remaining: 1.33s
133: learn: 0.4116775 total: 206ms remaining: 1.33s
134: learn: 0.4113848 total: 208ms remaining: 1.33s
135: learn: 0.4108845 total: 210ms remaining: 1.33s
136: learn: 0.4102575 total: 211ms remaining: 1.33s
137: learn: 0.4097457 total: 212ms remaining: 1.32s
138: learn: 0.4093120 total: 213ms remaining: 1.32s
139: learn: 0.4086510 total: 214ms remaining: 1.32s
140: learn: 0.4081524 total: 216ms remaining: 1.31s
141: learn: 0.4077314 total: 217ms remaining: 1.31s
142: learn: 0.4073578 total: 219ms remaining: 1.31s
143: learn: 0.4068241 total: 220ms remaining: 1.31s
144: learn: 0.4067545 total: 221ms remaining: 1.3s
145: learn: 0.4064431 total: 223ms remaining: 1.3s
146: learn: 0.4060806 total: 224ms remaining: 1.3s
147: learn: 0.4054642 total: 225ms remaining: 1.3s
148: learn: 0.4048460 total: 227ms remaining: 1.3s
149: learn: 0.4044599 total: 229ms remaining: 1.3s
150: learn: 0.4040061 total: 231ms remaining: 1.3s
151: learn: 0.4034841 total: 232ms remaining: 1.3s
152: learn: 0.4032653 total: 234ms remaining: 1.29s
153: learn: 0.4028677 total: 236ms remaining: 1.3s
154: learn: 0.4025705 total: 238ms remaining: 1.3s
155: learn: 0.4020478 total: 241ms remaining: 1.3s
156: learn: 0.4018028 total: 243ms remaining: 1.3s
157: learn: 0.4013954 total: 245ms remaining: 1.3s
158: learn: 0.4011103 total: 247ms remaining: 1.31s
159: learn: 0.4008901 total: 249ms remaining: 1.31s
160: learn: 0.4005618 total: 251ms remaining: 1.31s
161: learn: 0.4003300 total: 252ms remaining: 1.3s
162: learn: 0.3998785 total: 254ms remaining: 1.3s
163: learn: 0.3996616 total: 256ms remaining: 1.3s
164: learn: 0.3991719 total: 258ms remaining: 1.31s
165: learn: 0.3988683 total: 260ms remaining: 1.31s
166: learn: 0.3983521 total: 262ms remaining: 1.3s
167: learn: 0.3977895 total: 263ms remaining: 1.3s
168: learn: 0.3974676 total: 266ms remaining: 1.31s
169: learn: 0.3970918 total: 268ms remaining: 1.31s
170: learn: 0.3966806 total: 270ms remaining: 1.31s
171: learn: 0.3962760 total: 272ms remaining: 1.31s
172: learn: 0.3959499 total: 274ms remaining: 1.31s
173: learn: 0.3956154 total: 276ms remaining: 1.31s
174: learn: 0.3953530 total: 278ms remaining: 1.31s
175: learn: 0.3950602 total: 280ms remaining: 1.31s
176: learn: 0.3946598 total: 282ms remaining: 1.31s
177: learn: 0.3943762 total: 285ms remaining: 1.31s
178: learn: 0.3940305 total: 288ms remaining: 1.32s
179: learn: 0.3936495 total: 290ms remaining: 1.32s
180: learn: 0.3934717 total: 291ms remaining: 1.32s
181: learn: 0.3931530 total: 293ms remaining: 1.32s
182: learn: 0.3927265 total: 295ms remaining: 1.32s
183: learn: 0.3923047 total: 298ms remaining: 1.32s
184: learn: 0.3917873 total: 300ms remaining: 1.32s
185: learn: 0.3914667 total: 302ms remaining: 1.32s
186: learn: 0.3910411 total: 305ms remaining: 1.32s
187: learn: 0.3908297 total: 306ms remaining: 1.32s
188: learn: 0.3907617 total: 307ms remaining: 1.32s
189: learn: 0.3904371 total: 308ms remaining: 1.31s
190: learn: 0.3900130 total: 310ms remaining: 1.31s
191: ----- 0.3898122 +----- 212ms ----- 1.31s
```

```
191: learn: 0.3898152 total: 317ms remaining: 1.31s
192: learn: 0.3897684 total: 313ms remaining: 1.31s
193: learn: 0.3895115 total: 314ms remaining: 1.31s
194: learn: 0.3890906 total: 316ms remaining: 1.3s
195: learn: 0.3888588 total: 318ms remaining: 1.3s
196: learn: 0.3885576 total: 319ms remaining: 1.3s
197: learn: 0.3883854 total: 321ms remaining: 1.3s
198: learn: 0.3879284 total: 324ms remaining: 1.3s
199: learn: 0.3877299 total: 326ms remaining: 1.3s
200: learn: 0.3876158 total: 327ms remaining: 1.3s
201: learn: 0.3874430 total: 329ms remaining: 1.3s
202: learn: 0.3871556 total: 330ms remaining: 1.3s
203: learn: 0.3869292 total: 332ms remaining: 1.3s
204: learn: 0.3866463 total: 334ms remaining: 1.29s
205: learn: 0.3863009 total: 336ms remaining: 1.29s
206: learn: 0.3859627 total: 337ms remaining: 1.29s
207: learn: 0.3856907 total: 340ms remaining: 1.29s
208: learn: 0.3854983 total: 342ms remaining: 1.29s
209: learn: 0.3851742 total: 343ms remaining: 1.29s
210: learn: 0.3850798 total: 345ms remaining: 1.29s
211: learn: 0.3849180 total: 347ms remaining: 1.29s
212: learn: 0.3844971 total: 348ms remaining: 1.29s
213: learn: 0.3841659 total: 350ms remaining: 1.28s
214: learn: 0.3839092 total: 352ms remaining: 1.28s
215: learn: 0.3834458 total: 354ms remaining: 1.28s
216: learn: 0.3831539 total: 357ms remaining: 1.29s
217: learn: 0.3828020 total: 359ms remaining: 1.29s
218: learn: 0.3825659 total: 361ms remaining: 1.29s
219: learn: 0.3823757 total: 363ms remaining: 1.29s
220: learn: 0.3821094 total: 366ms remaining: 1.29s
221: learn: 0.3819189 total: 368ms remaining: 1.29s
222: learn: 0.3816011 total: 370ms remaining: 1.29s
223: learn: 0.3814525 total: 372ms remaining: 1.29s
224: learn: 0.3812261 total: 373ms remaining: 1.29s
225: learn: 0.3811172 total: 375ms remaining: 1.28s
226: learn: 0.3809055 total: 377ms remaining: 1.28s
227: learn: 0.3805198 total: 378ms remaining: 1.28s
228: learn: 0.3803723 total: 380ms remaining: 1.28s
229: learn: 0.3801043 total: 381ms remaining: 1.28s
230: learn: 0.3798295 total: 383ms remaining: 1.27s
231: learn: 0.3796270 total: 385ms remaining: 1.27s
232: learn: 0.3793864 total: 386ms remaining: 1.27s
233: learn: 0.3791323 total: 387ms remaining: 1.27s
234: learn: 0.3788519 total: 389ms remaining: 1.27s
235: learn: 0.3787289 total: 391ms remaining: 1.27s
236: learn: 0.3786387 total: 393ms remaining: 1.26s
237: learn: 0.3783474 total: 395ms remaining: 1.26s
238: learn: 0.3780320 total: 397ms remaining: 1.26s
239: learn: 0.3776342 total: 399ms remaining: 1.26s
240: learn: 0.3775009 total: 401ms remaining: 1.26s
241: learn: 0.3773070 total: 402ms remaining: 1.26s
242: learn: 0.3772902 total: 403ms remaining: 1.26s
243: learn: 0.3770659 total: 405ms remaining: 1.25s
244: learn: 0.3767410 total: 406ms remaining: 1.25s
245: learn: 0.3763896 total: 408ms remaining: 1.25s
246: learn: 0.3762147 total: 409ms remaining: 1.25s
247: learn: 0.3759841 total: 411ms remaining: 1.25s
248: learn: 0.3759077 total: 412ms remaining: 1.24s
249: learn: 0.3757580 total: 414ms remaining: 1.24s
250: learn: 0.3755474 total: 416ms remaining: 1.24s
251: learn: 0.3752243 total: 418ms remaining: 1.24s
252: learn: 0.3748993 total: 420ms remaining: 1.24s
253: learn: 0.3747568 total: 421ms remaining: 1.24s
254: learn: 0.3746261 total: 422ms remaining: 1.23s
255: learn: 0.3744067 total: 424ms remaining: 1.23s
256: learn: 0.3742120 total: 426ms remaining: 1.23s
257: learn: 0.3741835 total: 427ms remaining: 1.23s
258: learn: 0.3738426 total: 429ms remaining: 1.23s
259: learn: 0.3736895 total: 432ms remaining: 1.23s
260: learn: 0.3734846 total: 434ms remaining: 1.23s
261: learn: 0.3733098 total: 436ms remaining: 1.23s
262: learn: 0.3730078 total: 438ms remaining: 1.23s
263: learn: 0.3727562 total: 440ms remaining: 1.22s
```

```
205: learn: 0.3728503 total: 440ms remaining: 1.25s
264: learn: 0.3725898 total: 443ms remaining: 1.23s
265: learn: 0.3724367 total: 447ms remaining: 1.23s
266: learn: 0.3721949 total: 450ms remaining: 1.24s
267: learn: 0.3719877 total: 452ms remaining: 1.23s
268: learn: 0.3718827 total: 454ms remaining: 1.23s
269: learn: 0.3717583 total: 456ms remaining: 1.23s
270: learn: 0.3714034 total: 458ms remaining: 1.23s
271: learn: 0.3713347 total: 460ms remaining: 1.23s
272: learn: 0.3711351 total: 462ms remaining: 1.23s
273: learn: 0.3709756 total: 463ms remaining: 1.23s
274: learn: 0.3707796 total: 465ms remaining: 1.23s
275: learn: 0.3705002 total: 467ms remaining: 1.23s
276: learn: 0.3703071 total: 469ms remaining: 1.22s
277: learn: 0.3702235 total: 470ms remaining: 1.22s
278: learn: 0.3700193 total: 473ms remaining: 1.22s
279: learn: 0.3699323 total: 474ms remaining: 1.22s
280: learn: 0.3699120 total: 475ms remaining: 1.22s
281: learn: 0.3697299 total: 477ms remaining: 1.21s
282: learn: 0.3696741 total: 479ms remaining: 1.21s
283: learn: 0.3695714 total: 480ms remaining: 1.21s
284: learn: 0.3693919 total: 483ms remaining: 1.21s
285: learn: 0.3691777 total: 485ms remaining: 1.21s
286: learn: 0.3688488 total: 487ms remaining: 1.21s
287: learn: 0.3686921 total: 488ms remaining: 1.21s
288: learn: 0.3685106 total: 490ms remaining: 1.21s
289: learn: 0.3684370 total: 492ms remaining: 1.2s
290: learn: 0.3682000 total: 494ms remaining: 1.2s
291: learn: 0.3680798 total: 496ms remaining: 1.2s
292: learn: 0.3678188 total: 498ms remaining: 1.2s
293: learn: 0.3677898 total: 500ms remaining: 1.2s
294: learn: 0.3675852 total: 504ms remaining: 1.2s
295: learn: 0.3674911 total: 506ms remaining: 1.2s
296: learn: 0.3672723 total: 507ms remaining: 1.2s
297: learn: 0.3671667 total: 508ms remaining: 1.2s
298: learn: 0.3668691 total: 510ms remaining: 1.2s
299: learn: 0.3668624 total: 511ms remaining: 1.19s
300: learn: 0.3667224 total: 514ms remaining: 1.19s
301: learn: 0.3667148 total: 516ms remaining: 1.19s
302: learn: 0.3666120 total: 517ms remaining: 1.19s
303: learn: 0.3665457 total: 519ms remaining: 1.19s
304: learn: 0.3664546 total: 520ms remaining: 1.19s
305: learn: 0.3662332 total: 523ms remaining: 1.19s
306: learn: 0.3661720 total: 524ms remaining: 1.18s
307: learn: 0.3659930 total: 526ms remaining: 1.18s
308: learn: 0.3657504 total: 528ms remaining: 1.18s
309: learn: 0.3655853 total: 530ms remaining: 1.18s
310: learn: 0.3652759 total: 532ms remaining: 1.18s
311: learn: 0.3652429 total: 533ms remaining: 1.18s
312: learn: 0.3651062 total: 535ms remaining: 1.17s
313: learn: 0.3650649 total: 537ms remaining: 1.17s
314: learn: 0.3648465 total: 539ms remaining: 1.17s
315: learn: 0.3646253 total: 541ms remaining: 1.17s
316: learn: 0.3643180 total: 543ms remaining: 1.17s
317: learn: 0.3641116 total: 545ms remaining: 1.17s
318: learn: 0.3638345 total: 547ms remaining: 1.17s
319: learn: 0.3636260 total: 549ms remaining: 1.17s
320: learn: 0.3633499 total: 550ms remaining: 1.16s
321: learn: 0.3632244 total: 554ms remaining: 1.17s
322: learn: 0.3629747 total: 556ms remaining: 1.16s
323: learn: 0.3627808 total: 559ms remaining: 1.17s
324: learn: 0.3627555 total: 561ms remaining: 1.16s
325: learn: 0.3625800 total: 563ms remaining: 1.16s
326: learn: 0.3625172 total: 565ms remaining: 1.16s
327: learn: 0.3623177 total: 567ms remaining: 1.16s
328: learn: 0.3621953 total: 569ms remaining: 1.16s
329: learn: 0.3619685 total: 570ms remaining: 1.16s
330: learn: 0.3619274 total: 573ms remaining: 1.16s
331: learn: 0.3619136 total: 574ms remaining: 1.15s
332: learn: 0.3617967 total: 577ms remaining: 1.16s
333: learn: 0.3615855 total: 579ms remaining: 1.16s
334: learn: 0.3614310 total: 582ms remaining: 1.15s
335: learn: 0.3612760 total: 585ms remaining: 1.15s
```

```
555: learn: 0.3612410 total: 584ms remaining: 1.15s
336: learn: 0.3610964 total: 585ms remaining: 1.15s
337: learn: 0.3610202 total: 587ms remaining: 1.15s
338: learn: 0.3609077 total: 589ms remaining: 1.15s
339: learn: 0.3605854 total: 590ms remaining: 1.15s
340: learn: 0.3604652 total: 592ms remaining: 1.14s
341: learn: 0.3604148 total: 593ms remaining: 1.14s
342: learn: 0.3602964 total: 594ms remaining: 1.14s
343: learn: 0.3602600 total: 595ms remaining: 1.13s
344: learn: 0.3601388 total: 597ms remaining: 1.13s
345: learn: 0.3601176 total: 597ms remaining: 1.13s
346: learn: 0.3599425 total: 599ms remaining: 1.13s
347: learn: 0.3597121 total: 601ms remaining: 1.13s
348: learn: 0.3595917 total: 602ms remaining: 1.12s
349: learn: 0.3594139 total: 606ms remaining: 1.13s
350: learn: 0.3593265 total: 609ms remaining: 1.13s
351: learn: 0.3591595 total: 612ms remaining: 1.13s
352: learn: 0.3590276 total: 614ms remaining: 1.12s
353: learn: 0.3587920 total: 618ms remaining: 1.13s
354: learn: 0.3585859 total: 620ms remaining: 1.13s
355: learn: 0.3585283 total: 622ms remaining: 1.12s
356: learn: 0.3584105 total: 624ms remaining: 1.12s
357: learn: 0.3582667 total: 625ms remaining: 1.12s
358: learn: 0.3581041 total: 628ms remaining: 1.12s
359: learn: 0.3580590 total: 629ms remaining: 1.12s
360: learn: 0.3578856 total: 631ms remaining: 1.12s
361: learn: 0.3577945 total: 633ms remaining: 1.12s
362: learn: 0.3576507 total: 635ms remaining: 1.11s
363: learn: 0.3574328 total: 637ms remaining: 1.11s
364: learn: 0.3573025 total: 639ms remaining: 1.11s
365: learn: 0.3572262 total: 641ms remaining: 1.11s
366: learn: 0.3572042 total: 643ms remaining: 1.11s
367: learn: 0.3569783 total: 646ms remaining: 1.11s
368: learn: 0.3568448 total: 648ms remaining: 1.11s
369: learn: 0.3566778 total: 650ms remaining: 1.11s
370: learn: 0.3566273 total: 652ms remaining: 1.1s
371: learn: 0.3564685 total: 654ms remaining: 1.1s
372: learn: 0.3563010 total: 656ms remaining: 1.1s
373: learn: 0.3562238 total: 659ms remaining: 1.1s
374: learn: 0.3560776 total: 661ms remaining: 1.1s
375: learn: 0.3558996 total: 662ms remaining: 1.1s
376: learn: 0.3557458 total: 665ms remaining: 1.1s
377: learn: 0.3556605 total: 667ms remaining: 1.1s
378: learn: 0.3555166 total: 670ms remaining: 1.1s
379: learn: 0.3554211 total: 672ms remaining: 1.1s
380: learn: 0.3552821 total: 675ms remaining: 1.09s
381: learn: 0.3552312 total: 676ms remaining: 1.09s
382: learn: 0.3549724 total: 678ms remaining: 1.09s
383: learn: 0.3549468 total: 680ms remaining: 1.09s
384: learn: 0.3547712 total: 683ms remaining: 1.09s
385: learn: 0.3545818 total: 685ms remaining: 1.09s
386: learn: 0.3545002 total: 687ms remaining: 1.09s
387: learn: 0.3543892 total: 689ms remaining: 1.08s
388: learn: 0.3542745 total: 691ms remaining: 1.08s
389: learn: 0.3542584 total: 692ms remaining: 1.08s
390: learn: 0.3540551 total: 694ms remaining: 1.08s
391: learn: 0.3538696 total: 697ms remaining: 1.08s
392: learn: 0.3536663 total: 699ms remaining: 1.08s
393: learn: 0.3535523 total: 701ms remaining: 1.08s
394: learn: 0.3534425 total: 703ms remaining: 1.08s
395: learn: 0.3533561 total: 705ms remaining: 1.07s
396: learn: 0.3531686 total: 707ms remaining: 1.07s
397: learn: 0.3531197 total: 709ms remaining: 1.07s
398: learn: 0.3529314 total: 710ms remaining: 1.07s
399: learn: 0.3528374 total: 713ms remaining: 1.07s
400: learn: 0.3525502 total: 715ms remaining: 1.07s
401: learn: 0.3524578 total: 717ms remaining: 1.07s
402: learn: 0.3522685 total: 719ms remaining: 1.06s
403: learn: 0.3522125 total: 720ms remaining: 1.06s
404: learn: 0.3521042 total: 722ms remaining: 1.06s
405: learn: 0.3520805 total: 723ms remaining: 1.06s
406: learn: 0.3519995 total: 725ms remaining: 1.06s
407: learn: 0.3519885 total: 726ms remaining: 1.06s
```

400: learn: 0.35019556 total: 120ms remaining: 1.00s
408: learn: 0.3516862 total: 728ms remaining: 1.05s
409: learn: 0.3515807 total: 730ms remaining: 1.05s
410: learn: 0.3514498 total: 731ms remaining: 1.05s
411: learn: 0.3514212 total: 732ms remaining: 1.04s
412: learn: 0.3512378 total: 734ms remaining: 1.04s
413: learn: 0.3511649 total: 735ms remaining: 1.04s
414: learn: 0.3508914 total: 736ms remaining: 1.04s
415: learn: 0.3508394 total: 737ms remaining: 1.03s
416: learn: 0.3505374 total: 739ms remaining: 1.03s
417: learn: 0.3503420 total: 740ms remaining: 1.03s
418: learn: 0.3500973 total: 742ms remaining: 1.03s
419: learn: 0.3498944 total: 744ms remaining: 1.03s
420: learn: 0.3496916 total: 746ms remaining: 1.02s
421: learn: 0.3494933 total: 748ms remaining: 1.02s
422: learn: 0.3493074 total: 750ms remaining: 1.02s
423: learn: 0.3490359 total: 751ms remaining: 1.02s
424: learn: 0.3489496 total: 753ms remaining: 1.02s
425: learn: 0.3489421 total: 754ms remaining: 1.02s
426: learn: 0.3488699 total: 756ms remaining: 1.01s
427: learn: 0.3485820 total: 758ms remaining: 1.01s
428: learn: 0.3484322 total: 760ms remaining: 1.01s
429: learn: 0.3483073 total: 761ms remaining: 1.01s
430: learn: 0.3481714 total: 763ms remaining: 1.01s
431: learn: 0.3480579 total: 765ms remaining: 1s
432: learn: 0.3478709 total: 767ms remaining: 1s
433: learn: 0.3477825 total: 769ms remaining: 1s
434: learn: 0.3476585 total: 771ms remaining: 1s
435: learn: 0.3474682 total: 772ms remaining: 999ms
436: learn: 0.3473385 total: 774ms remaining: 997ms
437: learn: 0.3473239 total: 775ms remaining: 994ms
438: learn: 0.3472466 total: 777ms remaining: 993ms
439: learn: 0.3472052 total: 780ms remaining: 993ms
440: learn: 0.3471044 total: 782ms remaining: 991ms
441: learn: 0.3469972 total: 785ms remaining: 992ms
442: learn: 0.3468882 total: 787ms remaining: 990ms
443: learn: 0.3466249 total: 789ms remaining: 987ms
444: learn: 0.3465673 total: 790ms remaining: 986ms
445: learn: 0.3463329 total: 792ms remaining: 984ms
446: learn: 0.3461596 total: 794ms remaining: 982ms
447: learn: 0.3460779 total: 796ms remaining: 981ms
448: learn: 0.3459330 total: 798ms remaining: 979ms
449: learn: 0.3457695 total: 799ms remaining: 977ms
450: learn: 0.3457182 total: 801ms remaining: 975ms
451: learn: 0.3455968 total: 803ms remaining: 973ms
452: learn: 0.3454901 total: 804ms remaining: 971ms
453: learn: 0.3454659 total: 805ms remaining: 969ms
454: learn: 0.3453901 total: 807ms remaining: 967ms
455: learn: 0.3453230 total: 809ms remaining: 965ms
456: learn: 0.3452365 total: 810ms remaining: 962ms
457: learn: 0.3450779 total: 812ms remaining: 961ms
458: learn: 0.3449295 total: 814ms remaining: 959ms
459: learn: 0.3447970 total: 815ms remaining: 957ms
460: learn: 0.3446766 total: 817ms remaining: 955ms
461: learn: 0.3444889 total: 819ms remaining: 953ms
462: learn: 0.3444341 total: 820ms remaining: 951ms
463: learn: 0.3443749 total: 822ms remaining: 949ms
464: learn: 0.3442467 total: 824ms remaining: 948ms
465: learn: 0.3441232 total: 827ms remaining: 948ms
466: learn: 0.3440980 total: 828ms remaining: 945ms
467: learn: 0.3440425 total: 830ms remaining: 943ms
468: learn: 0.3439197 total: 831ms remaining: 941ms
469: learn: 0.3438272 total: 833ms remaining: 939ms
470: learn: 0.3437253 total: 834ms remaining: 937ms
471: learn: 0.3436194 total: 836ms remaining: 935ms
472: learn: 0.3435644 total: 838ms remaining: 933ms
473: learn: 0.3433959 total: 840ms remaining: 932ms
474: learn: 0.3432851 total: 841ms remaining: 930ms
475: learn: 0.3432750 total: 842ms remaining: 927ms
476: learn: 0.3430931 total: 844ms remaining: 925ms
477: learn: 0.3429582 total: 846ms remaining: 924ms
478: learn: 0.3428993 total: 847ms remaining: 922ms
479: learn: 0.3427905 total: 849ms remaining: 920ms

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479: learn: 0.3421995 total: 849ms remaining: 920ms
480: learn: 0.3427383 total: 851ms remaining: 918ms
481: learn: 0.3426593 total: 852ms remaining: 916ms
482: learn: 0.3425126 total: 854ms remaining: 914ms
483: learn: 0.3424010 total: 856ms remaining: 913ms
484: learn: 0.3423188 total: 858ms remaining: 911ms
485: learn: 0.3421423 total: 860ms remaining: 910ms
486: learn: 0.3420620 total: 862ms remaining: 908ms
487: learn: 0.3418384 total: 864ms remaining: 906ms
488: learn: 0.3418023 total: 866ms remaining: 905ms
489: learn: 0.3416067 total: 868ms remaining: 903ms
490: learn: 0.3414498 total: 870ms remaining: 902ms
491: learn: 0.3413838 total: 871ms remaining: 900ms
492: learn: 0.3413032 total: 873ms remaining: 898ms
493: learn: 0.3411798 total: 874ms remaining: 896ms
494: learn: 0.3410362 total: 876ms remaining: 894ms
495: learn: 0.3409314 total: 878ms remaining: 892ms
496: learn: 0.3407932 total: 879ms remaining: 890ms
497: learn: 0.3406847 total: 880ms remaining: 888ms
498: learn: 0.3405166 total: 882ms remaining: 885ms
499: learn: 0.3404199 total: 883ms remaining: 883ms
500: learn: 0.3403649 total: 885ms remaining: 881ms
501: learn: 0.3403017 total: 886ms remaining: 879ms
502: learn: 0.3402238 total: 889ms remaining: 878ms
503: learn: 0.3401963 total: 890ms remaining: 876ms
504: learn: 0.3399884 total: 893ms remaining: 875ms
505: learn: 0.3399386 total: 896ms remaining: 875ms
506: learn: 0.3398217 total: 898ms remaining: 874ms
507: learn: 0.3397706 total: 900ms remaining: 871ms
508: learn: 0.3396915 total: 903ms remaining: 871ms
509: learn: 0.3395227 total: 905ms remaining: 869ms
510: learn: 0.3393703 total: 907ms remaining: 868ms
511: learn: 0.3391115 total: 909ms remaining: 866ms
512: learn: 0.3389568 total: 910ms remaining: 864ms
513: learn: 0.3388195 total: 913ms remaining: 863ms
514: learn: 0.3386966 total: 914ms remaining: 861ms
515: learn: 0.3385500 total: 916ms remaining: 859ms
516: learn: 0.3384378 total: 918ms remaining: 857ms
517: learn: 0.3383269 total: 919ms remaining: 855ms
518: learn: 0.3383148 total: 921ms remaining: 854ms
519: learn: 0.3381678 total: 923ms remaining: 852ms
520: learn: 0.3380562 total: 924ms remaining: 850ms
521: learn: 0.3379458 total: 927ms remaining: 848ms
522: learn: 0.3377596 total: 929ms remaining: 847ms
523: learn: 0.3376601 total: 931ms remaining: 845ms
524: learn: 0.3375677 total: 933ms remaining: 844ms
525: learn: 0.3374662 total: 935ms remaining: 843ms
526: learn: 0.3373378 total: 938ms remaining: 842ms
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531: learn: 0.3366038 total: 946ms remaining: 832ms
532: learn: 0.3365800 total: 948ms remaining: 830ms
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534: learn: 0.3364730 total: 951ms remaining: 827ms
535: learn: 0.3363831 total: 954ms remaining: 826ms
536: learn: 0.3362652 total: 958ms remaining: 826ms
537: learn: 0.3360945 total: 960ms remaining: 825ms
538: learn: 0.3359711 total: 962ms remaining: 823ms
539: learn: 0.3358402 total: 964ms remaining: 821ms
540: learn: 0.3356703 total: 967ms remaining: 820ms
541: learn: 0.3356631 total: 968ms remaining: 818ms
542: learn: 0.3354018 total: 970ms remaining: 816ms
543: learn: 0.3353428 total: 972ms remaining: 814ms
544: learn: 0.3352364 total: 973ms remaining: 813ms
545: learn: 0.3352238 total: 975ms remaining: 811ms
546: learn: 0.3350839 total: 976ms remaining: 809ms
547: learn: 0.3350182 total: 979ms remaining: 807ms
548: learn: 0.3349036 total: 981ms remaining: 806ms
549: learn: 0.3348006 total: 982ms remaining: 803ms
550: learn: 0.3345636 total: 984ms remaining: 802ms
551: ----- 0.3344650 ----- 0.00ms ----- 0.00ms
```

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551: learn: 0.3344652 total: 980ms remaining: 899ms
552: learn: 0.3344101 total: 988ms remaining: 799ms
553: learn: 0.3343683 total: 991ms remaining: 797ms
554: learn: 0.3342181 total: 993ms remaining: 796ms
555: learn: 0.3341821 total: 995ms remaining: 795ms
556: learn: 0.3341711 total: 996ms remaining: 792ms
557: learn: 0.3340903 total: 998ms remaining: 790ms
558: learn: 0.3340577 total: 999ms remaining: 788ms
559: learn: 0.3340359 total: 1s remaining: 787ms
560: learn: 0.3339234 total: 1s remaining: 785ms
561: learn: 0.3338497 total: 1s remaining: 783ms
562: learn: 0.3337454 total: 1.01s remaining: 782ms
563: learn: 0.3336960 total: 1.01s remaining: 780ms
564: learn: 0.3335797 total: 1.01s remaining: 779ms
565: learn: 0.3334576 total: 1.01s remaining: 777ms
566: learn: 0.3333238 total: 1.01s remaining: 775ms
567: learn: 0.3332511 total: 1.02s remaining: 773ms
568: learn: 0.3331688 total: 1.02s remaining: 772ms
569: learn: 0.3331565 total: 1.02s remaining: 770ms
570: learn: 0.3328868 total: 1.02s remaining: 768ms
571: learn: 0.3326897 total: 1.02s remaining: 767ms
572: learn: 0.3325985 total: 1.03s remaining: 765ms
573: learn: 0.3324188 total: 1.03s remaining: 764ms
574: learn: 0.3323130 total: 1.03s remaining: 762ms
575: learn: 0.3322801 total: 1.03s remaining: 760ms
576: learn: 0.3320702 total: 1.03s remaining: 758ms
577: learn: 0.3319144 total: 1.04s remaining: 756ms
578: learn: 0.3317988 total: 1.04s remaining: 755ms
579: learn: 0.3317185 total: 1.04s remaining: 753ms
580: learn: 0.3315972 total: 1.04s remaining: 751ms
581: learn: 0.3314497 total: 1.04s remaining: 750ms
582: learn: 0.3312995 total: 1.05s remaining: 748ms
583: learn: 0.3312110 total: 1.05s remaining: 746ms
584: learn: 0.3311154 total: 1.05s remaining: 745ms
585: learn: 0.3310947 total: 1.05s remaining: 743ms
586: learn: 0.3309937 total: 1.05s remaining: 741ms
587: learn: 0.3308939 total: 1.05s remaining: 739ms
588: learn: 0.3307893 total: 1.06s remaining: 737ms
589: learn: 0.3306606 total: 1.06s remaining: 735ms
590: learn: 0.3305295 total: 1.06s remaining: 734ms
591: learn: 0.3305163 total: 1.06s remaining: 732ms
592: learn: 0.3303647 total: 1.06s remaining: 730ms
593: learn: 0.3302044 total: 1.06s remaining: 728ms
594: learn: 0.3301403 total: 1.07s remaining: 726ms
595: learn: 0.3300025 total: 1.07s remaining: 724ms
596: learn: 0.3298870 total: 1.07s remaining: 722ms
597: learn: 0.3297971 total: 1.07s remaining: 720ms
598: learn: 0.3296762 total: 1.07s remaining: 719ms
599: learn: 0.3294816 total: 1.07s remaining: 717ms
600: learn: 0.3292403 total: 1.08s remaining: 715ms
601: learn: 0.3291737 total: 1.08s remaining: 713ms
602: learn: 0.3290228 total: 1.08s remaining: 711ms
603: learn: 0.3288287 total: 1.08s remaining: 709ms
604: learn: 0.3287468 total: 1.08s remaining: 707ms
605: learn: 0.3287157 total: 1.08s remaining: 706ms
606: learn: 0.3286401 total: 1.09s remaining: 704ms
607: learn: 0.3285294 total: 1.09s remaining: 702ms
608: learn: 0.3284630 total: 1.09s remaining: 701ms
609: learn: 0.3283117 total: 1.09s remaining: 700ms
610: learn: 0.3282338 total: 1.1s remaining: 699ms
611: learn: 0.3281056 total: 1.1s remaining: 698ms
612: learn: 0.3279918 total: 1.1s remaining: 697ms
613: learn: 0.3278733 total: 1.11s remaining: 695ms
614: learn: 0.3277865 total: 1.11s remaining: 693ms
615: learn: 0.3275938 total: 1.11s remaining: 692ms
616: learn: 0.3275577 total: 1.11s remaining: 689ms
617: learn: 0.3273492 total: 1.11s remaining: 687ms
618: learn: 0.3272156 total: 1.11s remaining: 685ms
619: learn: 0.3271955 total: 1.11s remaining: 683ms
620: learn: 0.3270382 total: 1.11s remaining: 681ms
621: learn: 0.3269211 total: 1.12s remaining: 679ms
622: learn: 0.3268332 total: 1.12s remaining: 677ms
623: learn: 0.3267267 total: 1.12s remaining: 675ms
```

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625: learn: 0.3261501 total: 1.12s remaining: 619ms
624: learn: 0.3266564 total: 1.12s remaining: 673ms
625: learn: 0.3265685 total: 1.12s remaining: 671ms
626: learn: 0.3265236 total: 1.12s remaining: 669ms
627: learn: 0.3264368 total: 1.13s remaining: 667ms
628: learn: 0.3262769 total: 1.13s remaining: 666ms
629: learn: 0.3262479 total: 1.13s remaining: 664ms
630: learn: 0.3261618 total: 1.13s remaining: 662ms
631: learn: 0.3260653 total: 1.13s remaining: 660ms
632: learn: 0.3260636 total: 1.13s remaining: 658ms
633: learn: 0.3259056 total: 1.14s remaining: 656ms
634: learn: 0.3258287 total: 1.14s remaining: 654ms
635: learn: 0.3257468 total: 1.14s remaining: 652ms
636: learn: 0.3255632 total: 1.14s remaining: 649ms
637: learn: 0.3254426 total: 1.14s remaining: 647ms
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639: learn: 0.3253328 total: 1.14s remaining: 643ms
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642: learn: 0.3249952 total: 1.15s remaining: 638ms
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644: learn: 0.3247499 total: 1.15s remaining: 634ms
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646: learn: 0.3245252 total: 1.15s remaining: 629ms
647: learn: 0.3244989 total: 1.16s remaining: 628ms
648: learn: 0.3242636 total: 1.16s remaining: 626ms
649: learn: 0.3241990 total: 1.16s remaining: 624ms
650: learn: 0.3240237 total: 1.16s remaining: 622ms
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652: learn: 0.3238599 total: 1.16s remaining: 618ms
653: learn: 0.3237866 total: 1.17s remaining: 616ms
654: learn: 0.3237701 total: 1.17s remaining: 614ms
655: learn: 0.3236403 total: 1.17s remaining: 612ms
656: learn: 0.3234456 total: 1.17s remaining: 611ms
657: learn: 0.3233001 total: 1.17s remaining: 609ms
658: learn: 0.3231638 total: 1.17s remaining: 607ms
659: learn: 0.3231403 total: 1.17s remaining: 605ms
660: learn: 0.3229550 total: 1.18s remaining: 603ms
661: learn: 0.3229541 total: 1.18s remaining: 601ms
662: learn: 0.3228965 total: 1.18s remaining: 599ms
663: learn: 0.3228394 total: 1.18s remaining: 598ms
664: learn: 0.3226641 total: 1.18s remaining: 596ms
665: learn: 0.3226096 total: 1.18s remaining: 594ms
666: learn: 0.3223931 total: 1.19s remaining: 592ms
667: learn: 0.3223782 total: 1.19s remaining: 590ms
668: learn: 0.3222907 total: 1.19s remaining: 589ms
669: learn: 0.3221714 total: 1.19s remaining: 587ms
670: learn: 0.3220912 total: 1.19s remaining: 586ms
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672: learn: 0.3218290 total: 1.2s remaining: 582ms
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674: learn: 0.3215510 total: 1.2s remaining: 579ms
675: learn: 0.3214553 total: 1.2s remaining: 577ms
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677: learn: 0.3211682 total: 1.21s remaining: 573ms
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680: learn: 0.3207326 total: 1.21s remaining: 568ms
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683: learn: 0.3202743 total: 1.22s remaining: 562ms
684: learn: 0.3201268 total: 1.22s remaining: 560ms
685: learn: 0.3200036 total: 1.22s remaining: 559ms
686: learn: 0.3199137 total: 1.22s remaining: 557ms
687: learn: 0.3197293 total: 1.22s remaining: 555ms
688: learn: 0.3196293 total: 1.22s remaining: 553ms
689: learn: 0.3194205 total: 1.23s remaining: 551ms
690: learn: 0.3193380 total: 1.23s remaining: 549ms
691: learn: 0.3191969 total: 1.23s remaining: 547ms
692: learn: 0.3191505 total: 1.23s remaining: 545ms
693: learn: 0.3191082 total: 1.23s remaining: 543ms
694: learn: 0.3190510 total: 1.23s remaining: 541ms
695: learn: 0.3190000 total: 1.23s remaining: 539ms
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095: learn: 0.3189900 total: 1.25s remaining: 559ms
696: learn: 0.3188544 total: 1.24s remaining: 537ms
697: learn: 0.3185843 total: 1.24s remaining: 535ms
698: learn: 0.3185394 total: 1.24s remaining: 533ms
699: learn: 0.3184119 total: 1.24s remaining: 532ms
700: learn: 0.3183084 total: 1.24s remaining: 530ms
701: learn: 0.3182263 total: 1.24s remaining: 528ms
702: learn: 0.3181431 total: 1.25s remaining: 526ms
703: learn: 0.3178347 total: 1.25s remaining: 524ms
704: learn: 0.3176305 total: 1.25s remaining: 522ms
705: learn: 0.3175104 total: 1.25s remaining: 521ms
706: learn: 0.3174093 total: 1.25s remaining: 519ms
707: learn: 0.3173526 total: 1.25s remaining: 517ms
708: learn: 0.3172524 total: 1.25s remaining: 515ms
709: learn: 0.3171524 total: 1.25s remaining: 513ms
710: learn: 0.3169930 total: 1.26s remaining: 511ms
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712: learn: 0.3168436 total: 1.26s remaining: 507ms
713: learn: 0.3167825 total: 1.26s remaining: 505ms
714: learn: 0.3166521 total: 1.26s remaining: 503ms
715: learn: 0.3165870 total: 1.26s remaining: 501ms
716: learn: 0.3164948 total: 1.26s remaining: 499ms
717: learn: 0.3164659 total: 1.27s remaining: 497ms
718: learn: 0.3162061 total: 1.27s remaining: 495ms
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721: learn: 0.3161110 total: 1.27s remaining: 489ms
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723: learn: 0.3158731 total: 1.27s remaining: 485ms
724: learn: 0.3157965 total: 1.27s remaining: 484ms
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726: learn: 0.3156210 total: 1.28s remaining: 480ms
727: learn: 0.3155897 total: 1.28s remaining: 478ms
728: learn: 0.3155084 total: 1.28s remaining: 476ms
729: learn: 0.3154429 total: 1.28s remaining: 474ms
730: learn: 0.3152972 total: 1.28s remaining: 472ms
731: learn: 0.3152298 total: 1.28s remaining: 470ms
732: learn: 0.3151912 total: 1.29s remaining: 469ms
733: learn: 0.3151563 total: 1.29s remaining: 467ms
734: learn: 0.3150504 total: 1.29s remaining: 465ms
735: learn: 0.3150387 total: 1.29s remaining: 463ms
736: learn: 0.3149649 total: 1.29s remaining: 461ms
737: learn: 0.3148891 total: 1.29s remaining: 460ms
738: learn: 0.3147029 total: 1.3s remaining: 458ms
739: learn: 0.3145414 total: 1.3s remaining: 456ms
740: learn: 0.3145180 total: 1.3s remaining: 454ms
741: learn: 0.3144166 total: 1.3s remaining: 453ms
742: learn: 0.3143509 total: 1.3s remaining: 451ms
743: learn: 0.3141925 total: 1.31s remaining: 450ms
744: learn: 0.3139458 total: 1.31s remaining: 448ms
745: learn: 0.3136576 total: 1.31s remaining: 447ms
746: learn: 0.3135381 total: 1.31s remaining: 445ms
747: learn: 0.3135139 total: 1.31s remaining: 443ms
748: learn: 0.3134422 total: 1.31s remaining: 441ms
749: learn: 0.3134285 total: 1.32s remaining: 439ms
750: learn: 0.3133448 total: 1.32s remaining: 437ms
751: learn: 0.3132919 total: 1.32s remaining: 435ms
752: learn: 0.3131265 total: 1.32s remaining: 433ms
753: learn: 0.3129221 total: 1.32s remaining: 431ms
754: learn: 0.3128638 total: 1.32s remaining: 430ms
755: learn: 0.3127639 total: 1.32s remaining: 428ms
756: learn: 0.3127323 total: 1.33s remaining: 426ms
757: learn: 0.3126394 total: 1.33s remaining: 424ms
758: learn: 0.3124887 total: 1.33s remaining: 423ms
759: learn: 0.3124472 total: 1.33s remaining: 421ms
760: learn: 0.3123230 total: 1.33s remaining: 419ms
761: learn: 0.3121757 total: 1.33s remaining: 417ms
762: learn: 0.3120161 total: 1.34s remaining: 415ms
763: learn: 0.3118238 total: 1.34s remaining: 413ms
764: learn: 0.3117304 total: 1.34s remaining: 412ms
765: learn: 0.3116159 total: 1.34s remaining: 410ms
766: learn: 0.3115844 total: 1.34s remaining: 408ms
767: learn: 0.3114700 total: 1.34s remaining: 406ms

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761: learn: 0.311492 total: 1.34s remaining: 400ms
768: learn: 0.3113513 total: 1.35s remaining: 405ms
769: learn: 0.3113203 total: 1.35s remaining: 403ms
770: learn: 0.3112190 total: 1.35s remaining: 401ms
771: learn: 0.3111202 total: 1.35s remaining: 399ms
772: learn: 0.3110161 total: 1.35s remaining: 397ms
773: learn: 0.3108803 total: 1.35s remaining: 396ms
774: learn: 0.3108224 total: 1.36s remaining: 394ms
775: learn: 0.3108015 total: 1.36s remaining: 392ms
776: learn: 0.3106800 total: 1.36s remaining: 390ms
777: learn: 0.3106416 total: 1.36s remaining: 388ms
778: learn: 0.3105488 total: 1.36s remaining: 386ms
779: learn: 0.3103960 total: 1.36s remaining: 384ms
780: learn: 0.3102652 total: 1.36s remaining: 383ms
781: learn: 0.3101236 total: 1.36s remaining: 381ms
782: learn: 0.3100674 total: 1.37s remaining: 379ms
783: learn: 0.3099543 total: 1.37s remaining: 377ms
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787: learn: 0.3094607 total: 1.37s remaining: 370ms
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799: learn: 0.3081524 total: 1.39s remaining: 347ms
800: learn: 0.3081179 total: 1.39s remaining: 346ms
801: learn: 0.3080303 total: 1.39s remaining: 344ms
802: learn: 0.3079297 total: 1.39s remaining: 342ms
803: learn: 0.3078098 total: 1.4s remaining: 340ms
804: learn: 0.3077316 total: 1.4s remaining: 338ms
805: learn: 0.3075961 total: 1.4s remaining: 337ms
806: learn: 0.3075363 total: 1.4s remaining: 335ms
807: learn: 0.3074709 total: 1.4s remaining: 333ms
808: learn: 0.3073701 total: 1.4s remaining: 331ms
809: learn: 0.3072596 total: 1.41s remaining: 330ms
810: learn: 0.3071140 total: 1.41s remaining: 328ms
811: learn: 0.3070206 total: 1.41s remaining: 326ms
812: learn: 0.3069533 total: 1.41s remaining: 325ms
813: learn: 0.3069061 total: 1.41s remaining: 323ms
814: learn: 0.3066792 total: 1.41s remaining: 321ms
815: learn: 0.3066173 total: 1.42s remaining: 319ms
816: learn: 0.3064994 total: 1.42s remaining: 317ms
817: learn: 0.3063731 total: 1.42s remaining: 316ms
818: learn: 0.3062709 total: 1.42s remaining: 314ms
819: learn: 0.3062283 total: 1.42s remaining: 312ms
820: learn: 0.3061004 total: 1.42s remaining: 310ms
821: learn: 0.3059504 total: 1.42s remaining: 309ms
822: learn: 0.3058655 total: 1.43s remaining: 307ms
823: learn: 0.3057468 total: 1.43s remaining: 305ms
824: learn: 0.3057077 total: 1.43s remaining: 303ms
825: learn: 0.3054728 total: 1.43s remaining: 302ms
826: learn: 0.3053824 total: 1.43s remaining: 300ms
827: learn: 0.3052298 total: 1.44s remaining: 298ms
828: learn: 0.3051676 total: 1.44s remaining: 296ms
829: learn: 0.3050708 total: 1.44s remaining: 295ms
830: learn: 0.3050124 total: 1.44s remaining: 293ms
831: learn: 0.3049470 total: 1.44s remaining: 291ms
832: learn: 0.3048548 total: 1.44s remaining: 289ms
833: learn: 0.3046866 total: 1.44s remaining: 288ms
834: learn: 0.3043864 total: 1.45s remaining: 286ms
835: learn: 0.3043374 total: 1.45s remaining: 284ms
836: learn: 0.3042647 total: 1.45s remaining: 283ms
837: learn: 0.3041923 total: 1.45s remaining: 281ms
838: learn: 0.3040859 total: 1.45s remaining: 279ms
839: learn: 0.3040002 total: 1.46s remaining: 277ms
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859: learn: 0.3040000 total: 1.40s remaining: 271ms
840: learn: 0.3039571 total: 1.46s remaining: 275ms
841: learn: 0.3038518 total: 1.46s remaining: 274ms
842: learn: 0.3036536 total: 1.46s remaining: 272ms
843: learn: 0.3035461 total: 1.46s remaining: 270ms
844: learn: 0.3034584 total: 1.46s remaining: 268ms
845: learn: 0.3032920 total: 1.46s remaining: 267ms
846: learn: 0.3032473 total: 1.47s remaining: 265ms
847: learn: 0.3031915 total: 1.47s remaining: 263ms
848: learn: 0.3031216 total: 1.47s remaining: 261ms
849: learn: 0.3030018 total: 1.47s remaining: 260ms
850: learn: 0.3029578 total: 1.47s remaining: 258ms
851: learn: 0.3028940 total: 1.47s remaining: 256ms
852: learn: 0.3027359 total: 1.48s remaining: 255ms
853: learn: 0.3026847 total: 1.48s remaining: 253ms
854: learn: 0.3026670 total: 1.48s remaining: 251ms
855: learn: 0.3026011 total: 1.48s remaining: 250ms
856: learn: 0.3024937 total: 1.49s remaining: 248ms
857: learn: 0.3022801 total: 1.49s remaining: 246ms
858: learn: 0.3022660 total: 1.49s remaining: 245ms
859: learn: 0.3021795 total: 1.49s remaining: 243ms
860: learn: 0.3020699 total: 1.49s remaining: 241ms
861: learn: 0.3019965 total: 1.5s remaining: 239ms
862: learn: 0.3019569 total: 1.5s remaining: 238ms
863: learn: 0.3017956 total: 1.5s remaining: 236ms
864: learn: 0.3016284 total: 1.5s remaining: 234ms
865: learn: 0.3014665 total: 1.5s remaining: 232ms
866: learn: 0.3014160 total: 1.5s remaining: 230ms
867: learn: 0.3013415 total: 1.5s remaining: 229ms
868: learn: 0.3011524 total: 1.5s remaining: 227ms
869: learn: 0.3011115 total: 1.51s remaining: 225ms
870: learn: 0.3010536 total: 1.51s remaining: 223ms
871: learn: 0.3009470 total: 1.51s remaining: 221ms
872: learn: 0.3008328 total: 1.51s remaining: 220ms
873: learn: 0.3008027 total: 1.51s remaining: 218ms
874: learn: 0.3007768 total: 1.51s remaining: 216ms
875: learn: 0.3006859 total: 1.51s remaining: 214ms
876: learn: 0.3006201 total: 1.52s remaining: 213ms
877: learn: 0.3005102 total: 1.52s remaining: 211ms
878: learn: 0.3004716 total: 1.52s remaining: 209ms
879: learn: 0.3004339 total: 1.52s remaining: 207ms
880: learn: 0.3002825 total: 1.52s remaining: 206ms
881: learn: 0.3002538 total: 1.52s remaining: 204ms
882: learn: 0.3000661 total: 1.53s remaining: 202ms
883: learn: 0.2999726 total: 1.53s remaining: 200ms
884: learn: 0.2999029 total: 1.53s remaining: 199ms
885: learn: 0.2998772 total: 1.53s remaining: 197ms
886: learn: 0.2998168 total: 1.53s remaining: 195ms
887: learn: 0.2997572 total: 1.53s remaining: 193ms
888: learn: 0.2996720 total: 1.53s remaining: 192ms
889: learn: 0.2996076 total: 1.54s remaining: 190ms
890: learn: 0.2993709 total: 1.54s remaining: 188ms
891: learn: 0.2993170 total: 1.54s remaining: 186ms
892: learn: 0.2992565 total: 1.54s remaining: 185ms
893: learn: 0.2991986 total: 1.54s remaining: 183ms
894: learn: 0.2991528 total: 1.54s remaining: 181ms
895: learn: 0.2991279 total: 1.55s remaining: 180ms
896: learn: 0.2989105 total: 1.55s remaining: 178ms
897: learn: 0.2988214 total: 1.55s remaining: 176ms
898: learn: 0.2987703 total: 1.55s remaining: 174ms
899: learn: 0.2986409 total: 1.55s remaining: 173ms
900: learn: 0.2986032 total: 1.55s remaining: 171ms
901: learn: 0.2985121 total: 1.55s remaining: 169ms
902: learn: 0.2984501 total: 1.56s remaining: 167ms
903: learn: 0.2982830 total: 1.56s remaining: 166ms
904: learn: 0.2981630 total: 1.56s remaining: 164ms
905: learn: 0.2981211 total: 1.56s remaining: 162ms
906: learn: 0.2981006 total: 1.56s remaining: 160ms
907: learn: 0.2980203 total: 1.56s remaining: 158ms
908: learn: 0.2979278 total: 1.56s remaining: 157ms
909: learn: 0.2977301 total: 1.57s remaining: 155ms
910: learn: 0.2976312 total: 1.57s remaining: 153ms
911: ----- 0.2975627 +----- 1.57s ----- 151ms

```
911: learn: 0.2975651 total: 1.57s remaining: 151ms
912: learn: 0.2974775 total: 1.57s remaining: 150ms
913: learn: 0.2972803 total: 1.57s remaining: 148ms
914: learn: 0.2971865 total: 1.57s remaining: 146ms
915: learn: 0.2969875 total: 1.57s remaining: 144ms
916: learn: 0.2968984 total: 1.58s remaining: 143ms
917: learn: 0.2968427 total: 1.58s remaining: 141ms
918: learn: 0.2967389 total: 1.58s remaining: 139ms
919: learn: 0.2964445 total: 1.58s remaining: 138ms
920: learn: 0.2963963 total: 1.58s remaining: 136ms
921: learn: 0.2963377 total: 1.58s remaining: 134ms
922: learn: 0.2962538 total: 1.59s remaining: 132ms
923: learn: 0.2961920 total: 1.59s remaining: 131ms
924: learn: 0.2961188 total: 1.59s remaining: 129ms
925: learn: 0.2960290 total: 1.59s remaining: 127ms
926: learn: 0.2959531 total: 1.59s remaining: 126ms
927: learn: 0.2958759 total: 1.6s remaining: 124ms
928: learn: 0.2957558 total: 1.6s remaining: 122ms
929: learn: 0.2956741 total: 1.6s remaining: 120ms
930: learn: 0.2956053 total: 1.6s remaining: 119ms
931: learn: 0.2955360 total: 1.6s remaining: 117ms
932: learn: 0.2955289 total: 1.6s remaining: 115ms
933: learn: 0.2955121 total: 1.6s remaining: 113ms
934: learn: 0.2954519 total: 1.61s remaining: 112ms
935: learn: 0.2953696 total: 1.61s remaining: 110ms
936: learn: 0.2953022 total: 1.61s remaining: 108ms
937: learn: 0.2952429 total: 1.61s remaining: 106ms
938: learn: 0.2950549 total: 1.61s remaining: 105ms
939: learn: 0.2950007 total: 1.61s remaining: 103ms
940: learn: 0.2948184 total: 1.61s remaining: 101ms
941: learn: 0.2947930 total: 1.62s remaining: 99.6ms
942: learn: 0.2947492 total: 1.62s remaining: 97.8ms
943: learn: 0.2946450 total: 1.62s remaining: 96.1ms
944: learn: 0.2945779 total: 1.62s remaining: 94.4ms
945: learn: 0.2944218 total: 1.62s remaining: 92.7ms
946: learn: 0.2943149 total: 1.63s remaining: 90.9ms
947: learn: 0.2940534 total: 1.63s remaining: 89.2ms
948: learn: 0.2938724 total: 1.63s remaining: 87.5ms
949: learn: 0.2938339 total: 1.63s remaining: 85.8ms
950: learn: 0.2937681 total: 1.63s remaining: 84.1ms
951: learn: 0.2936823 total: 1.63s remaining: 82.4ms
952: learn: 0.2936335 total: 1.63s remaining: 80.6ms
953: learn: 0.2935825 total: 1.64s remaining: 78.9ms
954: learn: 0.2935527 total: 1.64s remaining: 77.2ms
955: learn: 0.2935085 total: 1.64s remaining: 75.5ms
956: learn: 0.2934471 total: 1.64s remaining: 73.7ms
957: learn: 0.2933675 total: 1.64s remaining: 72ms
958: learn: 0.2932734 total: 1.64s remaining: 70.3ms
959: learn: 0.2930865 total: 1.65s remaining: 68.6ms
960: learn: 0.2929878 total: 1.65s remaining: 66.9ms
961: learn: 0.2929313 total: 1.65s remaining: 65.1ms
962: learn: 0.2928170 total: 1.65s remaining: 63.4ms
963: learn: 0.2927523 total: 1.65s remaining: 61.7ms
964: learn: 0.2927291 total: 1.65s remaining: 60ms
965: learn: 0.2925713 total: 1.65s remaining: 58.2ms
966: learn: 0.2924829 total: 1.66s remaining: 56.5ms
967: learn: 0.2924096 total: 1.66s remaining: 54.8ms
968: learn: 0.2923130 total: 1.66s remaining: 53.1ms
969: learn: 0.2922492 total: 1.66s remaining: 51.4ms
970: learn: 0.2921848 total: 1.66s remaining: 49.7ms
971: learn: 0.2921189 total: 1.67s remaining: 48ms
972: learn: 0.2921072 total: 1.67s remaining: 46.2ms
973: learn: 0.2919937 total: 1.67s remaining: 44.5ms
974: learn: 0.2919401 total: 1.67s remaining: 42.8ms
975: learn: 0.2918964 total: 1.67s remaining: 41.1ms
976: learn: 0.2916887 total: 1.67s remaining: 39.4ms
977: learn: 0.2916134 total: 1.68s remaining: 37.7ms
978: learn: 0.2915448 total: 1.68s remaining: 36ms
979: learn: 0.2913354 total: 1.68s remaining: 34.3ms
980: learn: 0.2912797 total: 1.68s remaining: 32.6ms
981: learn: 0.2912553 total: 1.68s remaining: 30.9ms
982: learn: 0.2912009 total: 1.69s remaining: 29.2ms
983: learn: 0.2911401 total: 1.69s remaining: 27.4ms
```

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985: learn: 0.2911491 total: 1.69s remaining: 21.4ms
984: learn: 0.2911068 total: 1.69s remaining: 25.7ms
985: learn: 0.2908804 total: 1.69s remaining: 24ms
986: learn: 0.2907725 total: 1.69s remaining: 22.3ms
987: learn: 0.2907448 total: 1.69s remaining: 20.6ms
988: learn: 0.2906685 total: 1.69s remaining: 18.8ms
989: learn: 0.2905342 total: 1.7s remaining: 17.1ms
990: learn: 0.2905012 total: 1.7s remaining: 15.4ms
991: learn: 0.2903383 total: 1.7s remaining: 13.7ms
992: learn: 0.2902995 total: 1.7s remaining: 12ms
993: learn: 0.2900612 total: 1.7s remaining: 10.3ms
994: learn: 0.2899350 total: 1.7s remaining: 8.56ms
995: learn: 0.2897846 total: 1.71s remaining: 6.85ms
996: learn: 0.2897066 total: 1.71s remaining: 5.14ms
997: learn: 0.2896627 total: 1.71s remaining: 3.42ms
998: learn: 0.2896037 total: 1.71s remaining: 1.71ms
999: learn: 0.2895684 total: 1.71s remaining: 0us
Learning rate set to 0.009376
0: learn: 0.6867273 total: 1.34ms remaining: 1.34s
1: learn: 0.6831607 total: 2.29ms remaining: 1.14s
2: learn: 0.6776509 total: 3.99ms remaining: 1.33s
3: learn: 0.6720005 total: 5.49ms remaining: 1.37s
4: learn: 0.6666488 total: 6.72ms remaining: 1.34s
5: learn: 0.6614364 total: 7.96ms remaining: 1.32s
6: learn: 0.6570490 total: 8.97ms remaining: 1.27s
7: learn: 0.6516055 total: 10.2ms remaining: 1.27s
8: learn: 0.6464521 total: 11.2ms remaining: 1.24s
9: learn: 0.6408601 total: 12.6ms remaining: 1.25s
10: learn: 0.6354099 total: 13.8ms remaining: 1.24s
11: learn: 0.6304209 total: 15.3ms remaining: 1.26s
12: learn: 0.6250673 total: 16.6ms remaining: 1.26s
13: learn: 0.6209222 total: 17.6ms remaining: 1.24s
14: learn: 0.6170213 total: 18.4ms remaining: 1.21s
15: learn: 0.6120645 total: 19.4ms remaining: 1.19s
16: learn: 0.6076892 total: 20.3ms remaining: 1.17s
17: learn: 0.6037319 total: 21ms remaining: 1.15s
18: learn: 0.5996681 total: 21.9ms remaining: 1.13s
19: learn: 0.5951683 total: 23ms remaining: 1.13s
20: learn: 0.5912322 total: 23.9ms remaining: 1.11s
21: learn: 0.5871903 total: 25.2ms remaining: 1.12s
22: learn: 0.5832128 total: 26.1ms remaining: 1.11s
23: learn: 0.5792785 total: 27.4ms remaining: 1.11s
24: learn: 0.5753350 total: 28.8ms remaining: 1.12s
25: learn: 0.5714977 total: 30.2ms remaining: 1.13s
26: learn: 0.5678686 total: 31.5ms remaining: 1.13s
27: learn: 0.5641819 total: 32.9ms remaining: 1.14s
28: learn: 0.5607179 total: 34.3ms remaining: 1.15s
29: learn: 0.5574011 total: 35.4ms remaining: 1.14s
30: learn: 0.5540094 total: 36.5ms remaining: 1.14s
31: learn: 0.5512606 total: 37.3ms remaining: 1.13s
32: learn: 0.5482579 total: 38.4ms remaining: 1.12s
33: learn: 0.5455683 total: 39.8ms remaining: 1.13s
34: learn: 0.5426977 total: 41.2ms remaining: 1.14s
35: learn: 0.5401083 total: 42.4ms remaining: 1.13s
36: learn: 0.5377899 total: 43.4ms remaining: 1.13s
37: learn: 0.5353867 total: 44.2ms remaining: 1.12s
38: learn: 0.5338911 total: 44.9ms remaining: 1.11s
39: learn: 0.5310218 total: 46.2ms remaining: 1.11s
40: learn: 0.5281273 total: 47.8ms remaining: 1.12s
41: learn: 0.5258809 total: 48.8ms remaining: 1.11s
42: learn: 0.5236851 total: 50.2ms remaining: 1.12s
43: learn: 0.5213056 total: 51.8ms remaining: 1.12s
44: learn: 0.5186345 total: 53.4ms remaining: 1.13s
45: learn: 0.5173823 total: 54.1ms remaining: 1.12s
46: learn: 0.5150739 total: 55.2ms remaining: 1.12s
47: learn: 0.5131264 total: 56.5ms remaining: 1.12s
48: learn: 0.5119543 total: 57.1ms remaining: 1.11s
49: learn: 0.5093334 total: 58.3ms remaining: 1.11s
50: learn: 0.5074141 total: 59.4ms remaining: 1.1s
51: learn: 0.5062706 total: 60.2ms remaining: 1.1s
52: learn: 0.5051434 total: 60.9ms remaining: 1.09s
53: learn: 0.5031665 total: 62.3ms remaining: 1.09s
```

```
54: learn: 0.500000 total: 65.5ms remaining: 1.09s
55: learn: 0.4988636 total: 64.6ms remaining: 1.09s
56: learn: 0.4965859 total: 65.7ms remaining: 1.09s
57: learn: 0.4946653 total: 66.8ms remaining: 1.08s
58: learn: 0.4925893 total: 67.9ms remaining: 1.08s
59: learn: 0.4907572 total: 69ms remaining: 1.08s
60: learn: 0.4887877 total: 70.2ms remaining: 1.08s
61: learn: 0.4874633 total: 72ms remaining: 1.09s
62: learn: 0.4857828 total: 74.8ms remaining: 1.11s
63: learn: 0.4843182 total: 75.9ms remaining: 1.11s
64: learn: 0.4822887 total: 77.9ms remaining: 1.12s
65: learn: 0.4808239 total: 79.7ms remaining: 1.13s
66: learn: 0.4788426 total: 81.2ms remaining: 1.13s
67: learn: 0.4772451 total: 82.7ms remaining: 1.13s
68: learn: 0.4754822 total: 84.1ms remaining: 1.14s
69: learn: 0.4738282 total: 85.2ms remaining: 1.13s
70: learn: 0.4722227 total: 86.3ms remaining: 1.13s
71: learn: 0.4704893 total: 87.6ms remaining: 1.13s
72: learn: 0.4689724 total: 88.7ms remaining: 1.13s
73: learn: 0.4672682 total: 90ms remaining: 1.13s
74: learn: 0.4657046 total: 91.3ms remaining: 1.13s
75: learn: 0.4640541 total: 92.2ms remaining: 1.12s
76: learn: 0.4626397 total: 93.3ms remaining: 1.12s
77: learn: 0.4613849 total: 95ms remaining: 1.12s
78: learn: 0.4598092 total: 96.2ms remaining: 1.12s
79: learn: 0.4582167 total: 97.6ms remaining: 1.12s
80: learn: 0.4570493 total: 98.9ms remaining: 1.12s
81: learn: 0.4561828 total: 99.9ms remaining: 1.12s
82: learn: 0.4547416 total: 101ms remaining: 1.12s
83: learn: 0.4536474 total: 103ms remaining: 1.12s
84: learn: 0.4522999 total: 104ms remaining: 1.12s
85: learn: 0.4509244 total: 106ms remaining: 1.12s
86: learn: 0.4498336 total: 107ms remaining: 1.12s
87: learn: 0.4489937 total: 108ms remaining: 1.12s
88: learn: 0.4478380 total: 109ms remaining: 1.11s
89: learn: 0.4467857 total: 110ms remaining: 1.11s
90: learn: 0.4455698 total: 111ms remaining: 1.11s
91: learn: 0.4448185 total: 113ms remaining: 1.11s
92: learn: 0.4441163 total: 113ms remaining: 1.1s
93: learn: 0.4429397 total: 115ms remaining: 1.1s
94: learn: 0.4420224 total: 116ms remaining: 1.1s
95: learn: 0.4409027 total: 117ms remaining: 1.1s
96: learn: 0.4400744 total: 118ms remaining: 1.1s
97: learn: 0.4390047 total: 120ms remaining: 1.1s
98: learn: 0.4381167 total: 121ms remaining: 1.1s
99: learn: 0.4368622 total: 122ms remaining: 1.1s
100: learn: 0.4358384 total: 124ms remaining: 1.1s
101: learn: 0.4348579 total: 125ms remaining: 1.1s
102: learn: 0.4343698 total: 127ms remaining: 1.1s
103: learn: 0.4333481 total: 128ms remaining: 1.11s
104: learn: 0.4323093 total: 130ms remaining: 1.1s
105: learn: 0.4311498 total: 131ms remaining: 1.11s
106: learn: 0.4304088 total: 133ms remaining: 1.11s
107: learn: 0.4292266 total: 134ms remaining: 1.11s
108: learn: 0.4280800 total: 135ms remaining: 1.1s
109: learn: 0.4273556 total: 136ms remaining: 1.1s
110: learn: 0.4264356 total: 137ms remaining: 1.1s
111: learn: 0.4255617 total: 138ms remaining: 1.1s
112: learn: 0.4254396 total: 139ms remaining: 1.09s
113: learn: 0.4247416 total: 140ms remaining: 1.09s
114: learn: 0.4238495 total: 141ms remaining: 1.09s
115: learn: 0.4228009 total: 142ms remaining: 1.08s
116: learn: 0.4223305 total: 143ms remaining: 1.08s
117: learn: 0.4216642 total: 144ms remaining: 1.08s
118: learn: 0.4207551 total: 145ms remaining: 1.07s
119: learn: 0.4198831 total: 146ms remaining: 1.07s
120: learn: 0.4191225 total: 147ms remaining: 1.07s
121: learn: 0.4183198 total: 149ms remaining: 1.07s
122: learn: 0.4174930 total: 150ms remaining: 1.07s
123: learn: 0.4167594 total: 151ms remaining: 1.06s
124: learn: 0.4162450 total: 152ms remaining: 1.06s
125: learn: 0.4158028 total: 153ms remaining: 1.06s
126: learn: 0.4153696 total: 154ms remaining: 1.06s
```

```
120: learn: 0.4150686 total: 155ms remaining: 1.00s
127: learn: 0.4143822 total: 156ms remaining: 1.06s
128: learn: 0.4137923 total: 158ms remaining: 1.07s
129: learn: 0.4131747 total: 160ms remaining: 1.07s
130: learn: 0.4127841 total: 160ms remaining: 1.06s
131: learn: 0.4122544 total: 162ms remaining: 1.06s
132: learn: 0.4115973 total: 164ms remaining: 1.07s
133: learn: 0.4109684 total: 166ms remaining: 1.07s
134: learn: 0.4106262 total: 168ms remaining: 1.07s
135: learn: 0.4103035 total: 169ms remaining: 1.07s
136: learn: 0.4102364 total: 170ms remaining: 1.07s
137: learn: 0.4096152 total: 171ms remaining: 1.07s
138: learn: 0.4091130 total: 172ms remaining: 1.07s
139: learn: 0.4084368 total: 174ms remaining: 1.07s
140: learn: 0.4079598 total: 175ms remaining: 1.06s
141: learn: 0.4073216 total: 176ms remaining: 1.06s
142: learn: 0.4068672 total: 177ms remaining: 1.06s
143: learn: 0.4062055 total: 179ms remaining: 1.06s
144: learn: 0.4060641 total: 180ms remaining: 1.06s
145: learn: 0.4054245 total: 181ms remaining: 1.06s
146: learn: 0.4050273 total: 182ms remaining: 1.05s
147: learn: 0.4047330 total: 183ms remaining: 1.05s
148: learn: 0.4042261 total: 184ms remaining: 1.05s
149: learn: 0.4037128 total: 185ms remaining: 1.05s
150: learn: 0.4033535 total: 187ms remaining: 1.05s
151: learn: 0.4027556 total: 189ms remaining: 1.05s
152: learn: 0.4024371 total: 190ms remaining: 1.05s
153: learn: 0.4021623 total: 192ms remaining: 1.05s
154: learn: 0.4015630 total: 194ms remaining: 1.06s
155: learn: 0.4012285 total: 196ms remaining: 1.06s
156: learn: 0.4007603 total: 197ms remaining: 1.06s
157: learn: 0.4001601 total: 198ms remaining: 1.05s
158: learn: 0.3998467 total: 199ms remaining: 1.05s
159: learn: 0.3992667 total: 201ms remaining: 1.05s
160: learn: 0.3990810 total: 202ms remaining: 1.05s
161: learn: 0.3985132 total: 203ms remaining: 1.05s
162: learn: 0.3980943 total: 205ms remaining: 1.05s
163: learn: 0.3979087 total: 206ms remaining: 1.05s
164: learn: 0.3973145 total: 208ms remaining: 1.05s
165: learn: 0.3969341 total: 209ms remaining: 1.05s
166: learn: 0.3965164 total: 211ms remaining: 1.05s
167: learn: 0.3962128 total: 212ms remaining: 1.05s
168: learn: 0.3958598 total: 214ms remaining: 1.05s
169: learn: 0.3954992 total: 215ms remaining: 1.05s
170: learn: 0.3950412 total: 217ms remaining: 1.05s
171: learn: 0.3944689 total: 218ms remaining: 1.05s
172: learn: 0.3939953 total: 219ms remaining: 1.05s
173: learn: 0.3937855 total: 221ms remaining: 1.05s
174: learn: 0.3934216 total: 222ms remaining: 1.04s
175: learn: 0.3929493 total: 223ms remaining: 1.04s
176: learn: 0.3927175 total: 224ms remaining: 1.04s
177: learn: 0.3926886 total: 225ms remaining: 1.04s
178: learn: 0.3924050 total: 226ms remaining: 1.04s
179: learn: 0.3921659 total: 228ms remaining: 1.04s
180: learn: 0.3916270 total: 229ms remaining: 1.04s
181: learn: 0.3912124 total: 230ms remaining: 1.03s
182: learn: 0.3908805 total: 232ms remaining: 1.03s
183: learn: 0.3904426 total: 234ms remaining: 1.04s
184: learn: 0.3901756 total: 236ms remaining: 1.04s
185: learn: 0.3897534 total: 237ms remaining: 1.04s
186: learn: 0.3895643 total: 239ms remaining: 1.04s
187: learn: 0.3891932 total: 240ms remaining: 1.04s
188: learn: 0.3888787 total: 242ms remaining: 1.04s
189: learn: 0.3885025 total: 243ms remaining: 1.04s
190: learn: 0.3881010 total: 245ms remaining: 1.04s
191: learn: 0.3878990 total: 247ms remaining: 1.04s
192: learn: 0.3876233 total: 248ms remaining: 1.04s
193: learn: 0.3874837 total: 249ms remaining: 1.04s
194: learn: 0.3871447 total: 251ms remaining: 1.03s
195: learn: 0.3869130 total: 253ms remaining: 1.04s
196: learn: 0.3866267 total: 254ms remaining: 1.04s
197: learn: 0.3863376 total: 256ms remaining: 1.04s
198: learn: 0.3860485 total: 258ms remaining: 1.04s
```

```
198: learn: 0.3800000 total: 250ms remaining: 1.04s
199: learn: 0.3858555 total: 259ms remaining: 1.03s
200: learn: 0.3856933 total: 262ms remaining: 1.04s
201: learn: 0.3852333 total: 263ms remaining: 1.04s
202: learn: 0.3850129 total: 265ms remaining: 1.04s
203: learn: 0.3845998 total: 266ms remaining: 1.04s
204: learn: 0.3842391 total: 268ms remaining: 1.04s
205: learn: 0.3838749 total: 270ms remaining: 1.04s
206: learn: 0.3834861 total: 272ms remaining: 1.04s
207: learn: 0.3831736 total: 273ms remaining: 1.04s
208: learn: 0.3828068 total: 275ms remaining: 1.04s
209: learn: 0.3824434 total: 277ms remaining: 1.04s
210: learn: 0.3822784 total: 279ms remaining: 1.04s
211: learn: 0.3819947 total: 281ms remaining: 1.04s
212: learn: 0.3817275 total: 282ms remaining: 1.04s
213: learn: 0.3812036 total: 284ms remaining: 1.04s
214: learn: 0.3808548 total: 288ms remaining: 1.05s
215: learn: 0.3805853 total: 290ms remaining: 1.05s
216: learn: 0.3803196 total: 292ms remaining: 1.05s
217: learn: 0.3798829 total: 294ms remaining: 1.05s
218: learn: 0.3796456 total: 295ms remaining: 1.05s
219: learn: 0.3794585 total: 297ms remaining: 1.05s
220: learn: 0.3793382 total: 298ms remaining: 1.05s
221: learn: 0.3789186 total: 300ms remaining: 1.05s
222: learn: 0.3786381 total: 301ms remaining: 1.05s
223: learn: 0.3784047 total: 303ms remaining: 1.05s
224: learn: 0.3781615 total: 304ms remaining: 1.05s
225: learn: 0.3778167 total: 306ms remaining: 1.05s
226: learn: 0.3776034 total: 308ms remaining: 1.05s
227: learn: 0.3773312 total: 310ms remaining: 1.05s
228: learn: 0.3771462 total: 311ms remaining: 1.05s
229: learn: 0.3769867 total: 313ms remaining: 1.05s
230: learn: 0.3768776 total: 315ms remaining: 1.05s
231: learn: 0.3766504 total: 317ms remaining: 1.05s
232: learn: 0.3764435 total: 319ms remaining: 1.05s
233: learn: 0.3762339 total: 320ms remaining: 1.05s
234: learn: 0.3759028 total: 322ms remaining: 1.05s
235: learn: 0.3756549 total: 324ms remaining: 1.05s
236: learn: 0.3753997 total: 326ms remaining: 1.05s
237: learn: 0.3751644 total: 327ms remaining: 1.05s
238: learn: 0.3749762 total: 329ms remaining: 1.05s
239: learn: 0.3745232 total: 330ms remaining: 1.04s
240: learn: 0.3743505 total: 332ms remaining: 1.04s
241: learn: 0.3740809 total: 333ms remaining: 1.04s
242: learn: 0.3738730 total: 334ms remaining: 1.04s
243: learn: 0.3738107 total: 335ms remaining: 1.04s
244: learn: 0.3735603 total: 337ms remaining: 1.04s
245: learn: 0.3733850 total: 339ms remaining: 1.04s
246: learn: 0.3731780 total: 341ms remaining: 1.04s
247: learn: 0.3729540 total: 343ms remaining: 1.04s
248: learn: 0.3727063 total: 345ms remaining: 1.04s
249: learn: 0.3726012 total: 346ms remaining: 1.04s
250: learn: 0.3722589 total: 347ms remaining: 1.03s
251: learn: 0.3720918 total: 348ms remaining: 1.03s
252: learn: 0.3718509 total: 350ms remaining: 1.03s
253: learn: 0.3718247 total: 351ms remaining: 1.03s
254: learn: 0.3716090 total: 352ms remaining: 1.03s
255: learn: 0.3711946 total: 354ms remaining: 1.03s
256: learn: 0.3709488 total: 356ms remaining: 1.03s
257: learn: 0.3706431 total: 359ms remaining: 1.03s
258: learn: 0.3705878 total: 360ms remaining: 1.03s
259: learn: 0.3704922 total: 361ms remaining: 1.03s
260: learn: 0.3702042 total: 363ms remaining: 1.03s
261: learn: 0.3699142 total: 364ms remaining: 1.02s
262: learn: 0.3696976 total: 366ms remaining: 1.02s
263: learn: 0.3695347 total: 367ms remaining: 1.02s
264: learn: 0.3692612 total: 368ms remaining: 1.02s
265: learn: 0.3689620 total: 370ms remaining: 1.02s
266: learn: 0.3686376 total: 371ms remaining: 1.02s
267: learn: 0.3685327 total: 373ms remaining: 1.02s
268: learn: 0.3682383 total: 374ms remaining: 1.01s
269: learn: 0.3679223 total: 375ms remaining: 1.01s
270: ----- 0.3679225 +----- 277ms ----- 1.01s
```

```
270: learn: 0.355194 total: 495ms remaining: 952ms
271: learn: 0.3675609 total: 378ms remaining: 1.01s
272: learn: 0.3672668 total: 379ms remaining: 1.01s
273: learn: 0.3669952 total: 381ms remaining: 1.01s
274: learn: 0.3666170 total: 383ms remaining: 1.01s
275: learn: 0.3664455 total: 384ms remaining: 1.01s
276: learn: 0.3661955 total: 386ms remaining: 1.01s
277: learn: 0.3660512 total: 389ms remaining: 1.01s
278: learn: 0.3658068 total: 390ms remaining: 1.01s
279: learn: 0.3655428 total: 392ms remaining: 1.01s
280: learn: 0.3653635 total: 393ms remaining: 1.01s
281: learn: 0.3652695 total: 395ms remaining: 1s
282: learn: 0.3651327 total: 397ms remaining: 1.01s
283: learn: 0.3649397 total: 399ms remaining: 1.01s
284: learn: 0.3646894 total: 402ms remaining: 1.01s
285: learn: 0.3646146 total: 404ms remaining: 1.01s
286: learn: 0.3644878 total: 406ms remaining: 1.01s
287: learn: 0.3642602 total: 408ms remaining: 1.01s
288: learn: 0.3641314 total: 409ms remaining: 1.01s
289: learn: 0.3638566 total: 411ms remaining: 1.01s
290: learn: 0.3636759 total: 413ms remaining: 1.01s
291: learn: 0.3636077 total: 415ms remaining: 1.01s
292: learn: 0.3634616 total: 417ms remaining: 1s
293: learn: 0.3632737 total: 419ms remaining: 1.01s
294: learn: 0.3630819 total: 420ms remaining: 1s
295: learn: 0.3628906 total: 424ms remaining: 1.01s
296: learn: 0.3626699 total: 428ms remaining: 1.01s
297: learn: 0.3626088 total: 430ms remaining: 1.01s
298: learn: 0.3622600 total: 431ms remaining: 1.01s
299: learn: 0.3621389 total: 433ms remaining: 1.01s
300: learn: 0.3618949 total: 434ms remaining: 1.01s
301: learn: 0.3617655 total: 436ms remaining: 1.01s
302: learn: 0.3616864 total: 438ms remaining: 1.01s
303: learn: 0.3615712 total: 439ms remaining: 1s
304: learn: 0.3612966 total: 441ms remaining: 1s
305: learn: 0.3611508 total: 443ms remaining: 1s
306: learn: 0.3609252 total: 444ms remaining: 1s
307: learn: 0.3606157 total: 445ms remaining: 1s
308: learn: 0.3603968 total: 447ms remaining: 999ms
309: learn: 0.3601393 total: 448ms remaining: 997ms
310: learn: 0.3600195 total: 449ms remaining: 995ms
311: learn: 0.3599128 total: 451ms remaining: 994ms
312: learn: 0.3598137 total: 452ms remaining: 992ms
313: learn: 0.3596662 total: 454ms remaining: 991ms
314: learn: 0.3593789 total: 456ms remaining: 991ms
315: learn: 0.3591567 total: 457ms remaining: 990ms
316: learn: 0.3590364 total: 459ms remaining: 989ms
317: learn: 0.3589201 total: 461ms remaining: 988ms
318: learn: 0.3587246 total: 462ms remaining: 986ms
319: learn: 0.3585718 total: 463ms remaining: 985ms
320: learn: 0.3584140 total: 465ms remaining: 983ms
321: learn: 0.3582841 total: 466ms remaining: 981ms
322: learn: 0.3581666 total: 467ms remaining: 979ms
323: learn: 0.3579765 total: 468ms remaining: 977ms
324: learn: 0.3575765 total: 470ms remaining: 976ms
325: learn: 0.3573673 total: 471ms remaining: 974ms
326: learn: 0.3572233 total: 473ms remaining: 973ms
327: learn: 0.3570933 total: 475ms remaining: 972ms
328: learn: 0.3568958 total: 477ms remaining: 972ms
329: learn: 0.3567596 total: 479ms remaining: 972ms
330: learn: 0.3565959 total: 480ms remaining: 971ms
331: learn: 0.3565551 total: 482ms remaining: 970ms
332: learn: 0.3564047 total: 483ms remaining: 968ms
333: learn: 0.3563576 total: 485ms remaining: 967ms
334: learn: 0.3561649 total: 486ms remaining: 965ms
335: learn: 0.3560405 total: 487ms remaining: 963ms
336: learn: 0.3558910 total: 489ms remaining: 961ms
337: learn: 0.3558084 total: 490ms remaining: 959ms
338: learn: 0.3557235 total: 491ms remaining: 957ms
339: learn: 0.3556781 total: 492ms remaining: 955ms
340: learn: 0.3555855 total: 494ms remaining: 954ms
341: learn: 0.3555194 total: 495ms remaining: 952ms
342: learn: 0.3552770 total: 497ms remaining: 951ms
```

```
342: learn: 0.3551579 total: 499ms remaining: 949ms
343: learn: 0.3552420 total: 498ms remaining: 949ms
344: learn: 0.3551579 total: 499ms remaining: 947ms
345: learn: 0.3550074 total: 500ms remaining: 945ms
346: learn: 0.3549005 total: 502ms remaining: 945ms
347: learn: 0.3546591 total: 504ms remaining: 944ms
348: learn: 0.3545169 total: 505ms remaining: 942ms
349: learn: 0.3544010 total: 506ms remaining: 940ms
350: learn: 0.3542230 total: 508ms remaining: 939ms
351: learn: 0.3539788 total: 509ms remaining: 937ms
352: learn: 0.3538741 total: 511ms remaining: 936ms
353: learn: 0.3537258 total: 512ms remaining: 935ms
354: learn: 0.3536787 total: 514ms remaining: 934ms
355: learn: 0.3535257 total: 517ms remaining: 935ms
356: learn: 0.3533282 total: 518ms remaining: 933ms
357: learn: 0.3532722 total: 520ms remaining: 932ms
358: learn: 0.3531606 total: 521ms remaining: 930ms
359: learn: 0.3530414 total: 522ms remaining: 929ms
360: learn: 0.3528967 total: 524ms remaining: 928ms
361: learn: 0.3527037 total: 526ms remaining: 926ms
362: learn: 0.3525516 total: 527ms remaining: 925ms
363: learn: 0.3523751 total: 528ms remaining: 923ms
364: learn: 0.3521815 total: 530ms remaining: 923ms
365: learn: 0.3519985 total: 532ms remaining: 921ms
366: learn: 0.3518148 total: 533ms remaining: 920ms
367: learn: 0.3515837 total: 535ms remaining: 918ms
368: learn: 0.3514514 total: 536ms remaining: 917ms
369: learn: 0.3511605 total: 538ms remaining: 916ms
370: learn: 0.3510776 total: 539ms remaining: 914ms
371: learn: 0.3509495 total: 541ms remaining: 913ms
372: learn: 0.3508651 total: 543ms remaining: 913ms
373: learn: 0.3507400 total: 545ms remaining: 913ms
374: learn: 0.3505946 total: 547ms remaining: 912ms
375: learn: 0.3504491 total: 549ms remaining: 910ms
376: learn: 0.3504140 total: 550ms remaining: 909ms
377: learn: 0.3502238 total: 551ms remaining: 907ms
378: learn: 0.3498760 total: 554ms remaining: 907ms
379: learn: 0.3497643 total: 555ms remaining: 905ms
380: learn: 0.3496410 total: 556ms remaining: 904ms
381: learn: 0.3495539 total: 558ms remaining: 903ms
382: learn: 0.3494712 total: 560ms remaining: 903ms
383: learn: 0.3494049 total: 563ms remaining: 904ms
384: learn: 0.3493203 total: 566ms remaining: 905ms
385: learn: 0.3492252 total: 568ms remaining: 904ms
386: learn: 0.3490878 total: 570ms remaining: 903ms
387: learn: 0.3488663 total: 572ms remaining: 902ms
388: learn: 0.3486977 total: 573ms remaining: 900ms
389: learn: 0.3485744 total: 575ms remaining: 899ms
390: learn: 0.3484638 total: 576ms remaining: 898ms
391: learn: 0.3481646 total: 578ms remaining: 897ms
392: learn: 0.3481164 total: 579ms remaining: 895ms
393: learn: 0.3480591 total: 582ms remaining: 894ms
394: learn: 0.3480514 total: 583ms remaining: 893ms
395: learn: 0.3477550 total: 584ms remaining: 891ms
396: learn: 0.3476206 total: 585ms remaining: 889ms
397: learn: 0.3475395 total: 587ms remaining: 887ms
398: learn: 0.3473588 total: 588ms remaining: 886ms
399: learn: 0.3472644 total: 589ms remaining: 884ms
400: learn: 0.3471520 total: 592ms remaining: 884ms
401: learn: 0.3470541 total: 594ms remaining: 883ms
402: learn: 0.3466642 total: 596ms remaining: 883ms
403: learn: 0.3465860 total: 598ms remaining: 882ms
404: learn: 0.3465067 total: 600ms remaining: 881ms
405: learn: 0.3462654 total: 603ms remaining: 882ms
406: learn: 0.3460903 total: 605ms remaining: 881ms
407: learn: 0.3460606 total: 606ms remaining: 879ms
408: learn: 0.3460089 total: 607ms remaining: 877ms
409: learn: 0.3458428 total: 609ms remaining: 876ms
410: learn: 0.3456538 total: 611ms remaining: 875ms
411: learn: 0.3455508 total: 613ms remaining: 875ms
412: learn: 0.3454755 total: 615ms remaining: 873ms
413: learn: 0.3454161 total: 616ms remaining: 872ms
414: learn: 0.3451005 total: 619ms remaining: 872ms
```

```
414: learn: 0.3451805 total: 819ms remaining: 815ms
415: learn: 0.3448952 total: 621ms remaining: 872ms
416: learn: 0.3447902 total: 623ms remaining: 871ms
417: learn: 0.3446432 total: 624ms remaining: 869ms
418: learn: 0.3444874 total: 626ms remaining: 868ms
419: learn: 0.3443985 total: 628ms remaining: 867ms
420: learn: 0.3443406 total: 629ms remaining: 866ms
421: learn: 0.3442774 total: 631ms remaining: 864ms
422: learn: 0.3441115 total: 633ms remaining: 863ms
423: learn: 0.3439215 total: 634ms remaining: 861ms
424: learn: 0.3438028 total: 635ms remaining: 860ms
425: learn: 0.3437407 total: 637ms remaining: 859ms
426: learn: 0.3436044 total: 639ms remaining: 858ms
427: learn: 0.3434692 total: 641ms remaining: 856ms
428: learn: 0.3434394 total: 642ms remaining: 855ms
429: learn: 0.3432730 total: 644ms remaining: 853ms
430: learn: 0.3431031 total: 645ms remaining: 851ms
431: learn: 0.3429012 total: 646ms remaining: 850ms
432: learn: 0.3428907 total: 647ms remaining: 848ms
433: learn: 0.3427694 total: 649ms remaining: 846ms
434: learn: 0.3426346 total: 650ms remaining: 845ms
435: learn: 0.3425821 total: 652ms remaining: 844ms
436: learn: 0.3425283 total: 654ms remaining: 842ms
437: learn: 0.3424372 total: 656ms remaining: 841ms
438: learn: 0.3423270 total: 657ms remaining: 840ms
439: learn: 0.3420573 total: 660ms remaining: 840ms
440: learn: 0.3419955 total: 662ms remaining: 839ms
441: learn: 0.3418793 total: 663ms remaining: 838ms
442: learn: 0.3417141 total: 665ms remaining: 836ms
443: learn: 0.3416393 total: 666ms remaining: 833ms
444: learn: 0.3415280 total: 667ms remaining: 831ms
445: learn: 0.3414500 total: 668ms remaining: 830ms
446: learn: 0.3413966 total: 669ms remaining: 828ms
447: learn: 0.3413341 total: 670ms remaining: 826ms
448: learn: 0.3412101 total: 672ms remaining: 824ms
449: learn: 0.3411640 total: 673ms remaining: 823ms
450: learn: 0.3410758 total: 675ms remaining: 821ms
451: learn: 0.3409824 total: 676ms remaining: 820ms
452: learn: 0.3408150 total: 678ms remaining: 818ms
453: learn: 0.3406455 total: 679ms remaining: 817ms
454: learn: 0.3405147 total: 682ms remaining: 817ms
455: learn: 0.3404562 total: 684ms remaining: 816ms
456: learn: 0.3403178 total: 685ms remaining: 814ms
457: learn: 0.3402090 total: 687ms remaining: 813ms
458: learn: 0.3401303 total: 689ms remaining: 812ms
459: learn: 0.3400341 total: 691ms remaining: 811ms
460: learn: 0.3399624 total: 693ms remaining: 810ms
461: learn: 0.3398366 total: 695ms remaining: 809ms
462: learn: 0.3398033 total: 696ms remaining: 808ms
463: learn: 0.3397111 total: 698ms remaining: 806ms
464: learn: 0.3396538 total: 699ms remaining: 805ms
465: learn: 0.3394459 total: 701ms remaining: 804ms
466: learn: 0.3393120 total: 704ms remaining: 803ms
467: learn: 0.3392495 total: 705ms remaining: 802ms
468: learn: 0.3390634 total: 707ms remaining: 801ms
469: learn: 0.3389861 total: 709ms remaining: 800ms
470: learn: 0.3389363 total: 711ms remaining: 798ms
471: learn: 0.3388042 total: 713ms remaining: 798ms
472: learn: 0.3387328 total: 715ms remaining: 797ms
473: learn: 0.3386283 total: 717ms remaining: 796ms
474: learn: 0.3385518 total: 719ms remaining: 795ms
475: learn: 0.3384536 total: 722ms remaining: 794ms
476: learn: 0.3383471 total: 723ms remaining: 793ms
477: learn: 0.3383455 total: 724ms remaining: 791ms
478: learn: 0.3381657 total: 727ms remaining: 790ms
479: learn: 0.3380928 total: 728ms remaining: 789ms
480: learn: 0.3379552 total: 730ms remaining: 788ms
481: learn: 0.3378438 total: 732ms remaining: 787ms
482: learn: 0.3376956 total: 734ms remaining: 785ms
483: learn: 0.3375316 total: 735ms remaining: 784ms
484: learn: 0.3374375 total: 737ms remaining: 783ms
485: learn: 0.3373397 total: 739ms remaining: 782ms
486: learn: 0.3372472 total: 741ms remaining: 780ms
```

```
400: learn: 0.33512412 total: 141ms remaining: 180ms
487: learn: 0.3370543 total: 742ms remaining: 779ms
488: learn: 0.3370173 total: 744ms remaining: 778ms
489: learn: 0.3369142 total: 746ms remaining: 776ms
490: learn: 0.3368069 total: 747ms remaining: 775ms
491: learn: 0.3366269 total: 749ms remaining: 773ms
492: learn: 0.3365880 total: 750ms remaining: 772ms
493: learn: 0.3362525 total: 752ms remaining: 770ms
494: learn: 0.3361501 total: 753ms remaining: 769ms
495: learn: 0.3360622 total: 755ms remaining: 768ms
496: learn: 0.3359191 total: 757ms remaining: 766ms
497: learn: 0.3357473 total: 759ms remaining: 765ms
498: learn: 0.3356466 total: 761ms remaining: 764ms
499: learn: 0.3355025 total: 762ms remaining: 762ms
500: learn: 0.3353273 total: 763ms remaining: 760ms
501: learn: 0.3352615 total: 765ms remaining: 759ms
502: learn: 0.3352599 total: 766ms remaining: 757ms
503: learn: 0.3352010 total: 767ms remaining: 755ms
504: learn: 0.3349943 total: 769ms remaining: 754ms
505: learn: 0.3349004 total: 771ms remaining: 752ms
506: learn: 0.3348092 total: 772ms remaining: 751ms
507: learn: 0.3346277 total: 774ms remaining: 749ms
508: learn: 0.3344589 total: 775ms remaining: 747ms
509: learn: 0.3343582 total: 776ms remaining: 746ms
510: learn: 0.3341809 total: 778ms remaining: 745ms
511: learn: 0.3341026 total: 780ms remaining: 743ms
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517: learn: 0.3333713 total: 790ms remaining: 735ms
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519: learn: 0.3332327 total: 792ms remaining: 732ms
520: learn: 0.3331550 total: 794ms remaining: 730ms
521: learn: 0.3330836 total: 795ms remaining: 728ms
522: learn: 0.3330290 total: 797ms remaining: 726ms
523: learn: 0.3328199 total: 798ms remaining: 725ms
524: learn: 0.3327671 total: 800ms remaining: 724ms
525: learn: 0.3327064 total: 802ms remaining: 723ms
526: learn: 0.3326022 total: 805ms remaining: 723ms
527: learn: 0.3325860 total: 807ms remaining: 721ms
528: learn: 0.3325109 total: 808ms remaining: 720ms
529: learn: 0.3323362 total: 809ms remaining: 718ms
530: learn: 0.3323285 total: 810ms remaining: 716ms
531: learn: 0.3322322 total: 811ms remaining: 714ms
532: learn: 0.3320303 total: 813ms remaining: 712ms
533: learn: 0.3319675 total: 814ms remaining: 710ms
534: learn: 0.3318652 total: 815ms remaining: 709ms
535: learn: 0.3317894 total: 816ms remaining: 707ms
536: learn: 0.3317139 total: 818ms remaining: 705ms
537: learn: 0.3315948 total: 819ms remaining: 703ms
538: learn: 0.3315473 total: 820ms remaining: 702ms
539: learn: 0.3313470 total: 822ms remaining: 700ms
540: learn: 0.3313392 total: 823ms remaining: 698ms
541: learn: 0.3312938 total: 824ms remaining: 697ms
542: learn: 0.3311405 total: 826ms remaining: 695ms
543: learn: 0.3310580 total: 827ms remaining: 693ms
544: learn: 0.3308173 total: 829ms remaining: 692ms
545: learn: 0.3306246 total: 830ms remaining: 690ms
546: learn: 0.3305018 total: 832ms remaining: 689ms
547: learn: 0.3304327 total: 833ms remaining: 687ms
548: learn: 0.3303480 total: 834ms remaining: 685ms
549: learn: 0.3303255 total: 836ms remaining: 684ms
550: learn: 0.3301220 total: 838ms remaining: 683ms
551: learn: 0.3300863 total: 839ms remaining: 681ms
552: learn: 0.3299850 total: 842ms remaining: 680ms
553: learn: 0.3298733 total: 843ms remaining: 679ms
554: learn: 0.3297567 total: 844ms remaining: 677ms
555: learn: 0.3297413 total: 846ms remaining: 675ms
556: learn: 0.3295816 total: 847ms remaining: 674ms
557: learn: 0.3294875 total: 849ms remaining: 672ms
558: learn: 0.3293856 total: 850ms remaining: 671ms
```

```
558: learn: 0.3295000 total: 850ms remaining: 671ms
559: learn: 0.3292757 total: 852ms remaining: 669ms
560: learn: 0.3291109 total: 853ms remaining: 668ms
561: learn: 0.3291096 total: 854ms remaining: 666ms
562: learn: 0.3289620 total: 856ms remaining: 664ms
563: learn: 0.3288853 total: 858ms remaining: 663ms
564: learn: 0.3287742 total: 859ms remaining: 661ms
565: learn: 0.3286406 total: 860ms remaining: 659ms
566: learn: 0.3285585 total: 862ms remaining: 658ms
567: learn: 0.3284354 total: 863ms remaining: 656ms
568: learn: 0.3283733 total: 865ms remaining: 655ms
569: learn: 0.3281771 total: 866ms remaining: 653ms
570: learn: 0.3279896 total: 867ms remaining: 652ms
571: learn: 0.3279780 total: 869ms remaining: 650ms
572: learn: 0.3278732 total: 871ms remaining: 649ms
573: learn: 0.3277931 total: 872ms remaining: 647ms
574: learn: 0.3277099 total: 873ms remaining: 645ms
575: learn: 0.3274030 total: 875ms remaining: 644ms
576: learn: 0.3273805 total: 876ms remaining: 642ms
577: learn: 0.3272997 total: 877ms remaining: 641ms
578: learn: 0.3272041 total: 879ms remaining: 639ms
579: learn: 0.3270704 total: 881ms remaining: 638ms
580: learn: 0.3268972 total: 882ms remaining: 636ms
581: learn: 0.3268237 total: 883ms remaining: 634ms
582: learn: 0.3267884 total: 884ms remaining: 632ms
583: learn: 0.3265925 total: 886ms remaining: 631ms
584: learn: 0.3264897 total: 887ms remaining: 629ms
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586: learn: 0.3263455 total: 889ms remaining: 626ms
587: learn: 0.3263280 total: 890ms remaining: 624ms
588: learn: 0.3263083 total: 891ms remaining: 622ms
589: learn: 0.3262057 total: 892ms remaining: 620ms
590: learn: 0.3261921 total: 893ms remaining: 618ms
591: learn: 0.3260223 total: 894ms remaining: 616ms
592: learn: 0.3259209 total: 895ms remaining: 615ms
593: learn: 0.3257331 total: 896ms remaining: 613ms
594: learn: 0.3257017 total: 897ms remaining: 611ms
595: learn: 0.3255515 total: 899ms remaining: 609ms
596: learn: 0.3254865 total: 900ms remaining: 607ms
597: learn: 0.3253990 total: 901ms remaining: 606ms
598: learn: 0.3252801 total: 903ms remaining: 604ms
599: learn: 0.3252042 total: 904ms remaining: 602ms
600: learn: 0.3251187 total: 905ms remaining: 601ms
601: learn: 0.3250153 total: 906ms remaining: 599ms
602: learn: 0.3249254 total: 907ms remaining: 597ms
603: learn: 0.3249163 total: 908ms remaining: 595ms
604: learn: 0.3248198 total: 909ms remaining: 594ms
605: learn: 0.3246902 total: 911ms remaining: 592ms
606: learn: 0.3246214 total: 912ms remaining: 591ms
607: learn: 0.3245877 total: 913ms remaining: 589ms
608: learn: 0.3244176 total: 914ms remaining: 587ms
609: learn: 0.3243883 total: 915ms remaining: 585ms
610: learn: 0.3243420 total: 917ms remaining: 584ms
611: learn: 0.3241909 total: 918ms remaining: 582ms
612: learn: 0.3241287 total: 919ms remaining: 580ms
613: learn: 0.3240571 total: 921ms remaining: 579ms
614: learn: 0.3238179 total: 922ms remaining: 577ms
615: learn: 0.3237445 total: 923ms remaining: 576ms
616: learn: 0.3235752 total: 925ms remaining: 574ms
617: learn: 0.3234306 total: 926ms remaining: 573ms
618: learn: 0.3233626 total: 928ms remaining: 571ms
619: learn: 0.3232779 total: 930ms remaining: 570ms
620: learn: 0.3231830 total: 931ms remaining: 568ms
621: learn: 0.3230615 total: 932ms remaining: 566ms
622: learn: 0.3229883 total: 933ms remaining: 565ms
623: learn: 0.3228248 total: 934ms remaining: 563ms
624: learn: 0.3228153 total: 935ms remaining: 561ms
625: learn: 0.3227154 total: 936ms remaining: 559ms
626: learn: 0.3225922 total: 937ms remaining: 557ms
627: learn: 0.3224871 total: 938ms remaining: 556ms
628: learn: 0.3224358 total: 939ms remaining: 554ms
629: learn: 0.3222245 total: 940ms remaining: 552ms
630: learn: 0.3221521 total: 941ms remaining: 550ms
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630: learn: 0.3221551 total: 941ms remaining: 550ms
631: learn: 0.3221143 total: 941ms remaining: 548ms
632: learn: 0.3219954 total: 942ms remaining: 546ms
633: learn: 0.3219603 total: 943ms remaining: 544ms
634: learn: 0.3218505 total: 944ms remaining: 542ms
635: learn: 0.3215382 total: 944ms remaining: 541ms
636: learn: 0.3214056 total: 945ms remaining: 539ms
637: learn: 0.3211098 total: 946ms remaining: 537ms
638: learn: 0.3209427 total: 947ms remaining: 535ms
639: learn: 0.3209008 total: 948ms remaining: 533ms
640: learn: 0.3207621 total: 949ms remaining: 532ms
641: learn: 0.3207326 total: 950ms remaining: 530ms
642: learn: 0.3206335 total: 952ms remaining: 528ms
643: learn: 0.3205425 total: 953ms remaining: 527ms
644: learn: 0.3204729 total: 954ms remaining: 525ms
645: learn: 0.3203879 total: 955ms remaining: 523ms
646: learn: 0.3201428 total: 956ms remaining: 522ms
647: learn: 0.3199582 total: 958ms remaining: 520ms
648: learn: 0.3198174 total: 959ms remaining: 519ms
649: learn: 0.3196681 total: 961ms remaining: 518ms
650: learn: 0.3195587 total: 963ms remaining: 516ms
651: learn: 0.3194459 total: 965ms remaining: 515ms
652: learn: 0.3193871 total: 967ms remaining: 514ms
653: learn: 0.3192942 total: 968ms remaining: 512ms
654: learn: 0.3192112 total: 969ms remaining: 511ms
655: learn: 0.3191343 total: 970ms remaining: 509ms
656: learn: 0.3191272 total: 971ms remaining: 507ms
657: learn: 0.3190717 total: 972ms remaining: 505ms
658: learn: 0.3190080 total: 973ms remaining: 504ms
659: learn: 0.3189021 total: 975ms remaining: 502ms
660: learn: 0.3187693 total: 976ms remaining: 500ms
661: learn: 0.3187668 total: 976ms remaining: 499ms
662: learn: 0.3186488 total: 978ms remaining: 497ms
663: learn: 0.3185669 total: 979ms remaining: 495ms
664: learn: 0.3184900 total: 980ms remaining: 494ms
665: learn: 0.3184638 total: 981ms remaining: 492ms
666: learn: 0.3183588 total: 982ms remaining: 490ms
667: learn: 0.3182983 total: 983ms remaining: 489ms
668: learn: 0.3182282 total: 984ms remaining: 487ms
669: learn: 0.3181562 total: 986ms remaining: 485ms
670: learn: 0.3179893 total: 987ms remaining: 484ms
671: learn: 0.3179227 total: 988ms remaining: 482ms
672: learn: 0.3178521 total: 989ms remaining: 481ms
673: learn: 0.3178201 total: 991ms remaining: 479ms
674: learn: 0.3177942 total: 992ms remaining: 478ms
675: learn: 0.3177310 total: 993ms remaining: 476ms
676: learn: 0.3175608 total: 994ms remaining: 474ms
677: learn: 0.3174794 total: 995ms remaining: 473ms
678: learn: 0.3174011 total: 996ms remaining: 471ms
679: learn: 0.3172178 total: 998ms remaining: 469ms
680: learn: 0.3171457 total: 999ms remaining: 468ms
681: learn: 0.3169187 total: 1s remaining: 466ms
682: learn: 0.3168638 total: 1s remaining: 465ms
683: learn: 0.3167223 total: 1s remaining: 463ms
684: learn: 0.3166233 total: 1s remaining: 462ms
685: learn: 0.3164694 total: 1s remaining: 460ms
686: learn: 0.3163851 total: 1.01s remaining: 459ms
687: learn: 0.3163270 total: 1.01s remaining: 457ms
688: learn: 0.3161627 total: 1.01s remaining: 455ms
689: learn: 0.3159068 total: 1.01s remaining: 454ms
690: learn: 0.3158701 total: 1.01s remaining: 452ms
691: learn: 0.3158483 total: 1.01s remaining: 451ms
692: learn: 0.3157601 total: 1.01s remaining: 449ms
693: learn: 0.3156239 total: 1.01s remaining: 448ms
694: learn: 0.3155265 total: 1.02s remaining: 446ms
695: learn: 0.3155044 total: 1.02s remaining: 444ms
696: learn: 0.3154242 total: 1.02s remaining: 443ms
697: learn: 0.3151487 total: 1.02s remaining: 441ms
698: learn: 0.3150320 total: 1.02s remaining: 440ms
699: learn: 0.3149775 total: 1.02s remaining: 438ms
700: learn: 0.3149024 total: 1.02s remaining: 436ms
701: learn: 0.3147347 total: 1.02s remaining: 435ms
702: learn: 0.3145500 total: 1.02s remaining: 433ms
```

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702: learn: 0.3145558 total: 1.02s remaining: 455ms
703: learn: 0.3145076 total: 1.03s remaining: 432ms
704: learn: 0.3143972 total: 1.03s remaining: 430ms
705: learn: 0.3143874 total: 1.03s remaining: 428ms
706: learn: 0.3143774 total: 1.03s remaining: 426ms
707: learn: 0.3143430 total: 1.03s remaining: 425ms
708: learn: 0.3142760 total: 1.03s remaining: 423ms
709: learn: 0.3141962 total: 1.03s remaining: 422ms
710: learn: 0.3139458 total: 1.03s remaining: 420ms
711: learn: 0.3138355 total: 1.03s remaining: 419ms
712: learn: 0.3138063 total: 1.04s remaining: 417ms
713: learn: 0.3136213 total: 1.04s remaining: 416ms
714: learn: 0.3134837 total: 1.04s remaining: 415ms
715: learn: 0.3134580 total: 1.04s remaining: 413ms
716: learn: 0.3132771 total: 1.04s remaining: 412ms
717: learn: 0.3132012 total: 1.04s remaining: 410ms
718: learn: 0.3130745 total: 1.04s remaining: 408ms
719: learn: 0.3129899 total: 1.05s remaining: 407ms
720: learn: 0.3128994 total: 1.05s remaining: 405ms
721: learn: 0.3127673 total: 1.05s remaining: 404ms
722: learn: 0.3126921 total: 1.05s remaining: 402ms
723: learn: 0.3125878 total: 1.05s remaining: 401ms
724: learn: 0.3123009 total: 1.05s remaining: 400ms
725: learn: 0.3122219 total: 1.05s remaining: 398ms
726: learn: 0.3121943 total: 1.05s remaining: 396ms
727: learn: 0.3121650 total: 1.06s remaining: 395ms
728: learn: 0.3121379 total: 1.06s remaining: 394ms
729: learn: 0.3120146 total: 1.06s remaining: 392ms
730: learn: 0.3119199 total: 1.06s remaining: 391ms
731: learn: 0.3117433 total: 1.06s remaining: 390ms
732: learn: 0.3116843 total: 1.06s remaining: 388ms
733: learn: 0.3116334 total: 1.07s remaining: 387ms
734: learn: 0.3115559 total: 1.07s remaining: 385ms
735: learn: 0.3113821 total: 1.07s remaining: 384ms
736: learn: 0.3112737 total: 1.07s remaining: 382ms
737: learn: 0.3111633 total: 1.07s remaining: 381ms
738: learn: 0.3110144 total: 1.07s remaining: 379ms
739: learn: 0.3108711 total: 1.07s remaining: 378ms
740: learn: 0.3108206 total: 1.08s remaining: 376ms
741: learn: 0.3106310 total: 1.08s remaining: 375ms
742: learn: 0.3105580 total: 1.08s remaining: 374ms
743: learn: 0.3104604 total: 1.08s remaining: 372ms
744: learn: 0.3103611 total: 1.08s remaining: 371ms
745: learn: 0.3102799 total: 1.08s remaining: 369ms
746: learn: 0.3101586 total: 1.08s remaining: 368ms
747: learn: 0.3101294 total: 1.09s remaining: 366ms
748: learn: 0.3100766 total: 1.09s remaining: 365ms
749: learn: 0.3100258 total: 1.09s remaining: 363ms
750: learn: 0.3099938 total: 1.09s remaining: 362ms
751: learn: 0.3098586 total: 1.09s remaining: 360ms
752: learn: 0.3098201 total: 1.09s remaining: 359ms
753: learn: 0.3097287 total: 1.09s remaining: 357ms
754: learn: 0.3095829 total: 1.1s remaining: 356ms
755: learn: 0.3093650 total: 1.1s remaining: 354ms
756: learn: 0.3092510 total: 1.1s remaining: 353ms
757: learn: 0.3091004 total: 1.1s remaining: 351ms
758: learn: 0.3090356 total: 1.1s remaining: 350ms
759: learn: 0.3088984 total: 1.1s remaining: 348ms
760: learn: 0.3087423 total: 1.1s remaining: 347ms
761: learn: 0.3085411 total: 1.1s remaining: 345ms
762: learn: 0.3084892 total: 1.11s remaining: 344ms
763: learn: 0.3083610 total: 1.11s remaining: 342ms
764: learn: 0.3082824 total: 1.11s remaining: 341ms
765: learn: 0.3081212 total: 1.11s remaining: 339ms
766: learn: 0.3080028 total: 1.11s remaining: 338ms
767: learn: 0.3079052 total: 1.11s remaining: 336ms
768: learn: 0.3077806 total: 1.11s remaining: 335ms
769: learn: 0.3076742 total: 1.12s remaining: 333ms
770: learn: 0.3075033 total: 1.12s remaining: 332ms
771: learn: 0.3073891 total: 1.12s remaining: 330ms
772: learn: 0.3071526 total: 1.12s remaining: 329ms
773: learn: 0.3070524 total: 1.12s remaining: 327ms
774: ----- 0.3069117 +----- 1.12s ----- 326ms
```

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//4: learn: 0.300944 total: 1.12s remaining: 520ms
775: learn: 0.3068950 total: 1.12s remaining: 324ms
776: learn: 0.3067287 total: 1.12s remaining: 323ms
777: learn: 0.3065879 total: 1.13s remaining: 321ms
778: learn: 0.3064987 total: 1.13s remaining: 320ms
779: learn: 0.3064621 total: 1.13s remaining: 319ms
780: learn: 0.3063691 total: 1.13s remaining: 317ms
781: learn: 0.3061179 total: 1.13s remaining: 316ms
782: learn: 0.3060491 total: 1.13s remaining: 315ms
783: learn: 0.3059703 total: 1.14s remaining: 313ms
784: learn: 0.3059001 total: 1.14s remaining: 311ms
785: learn: 0.3058268 total: 1.14s remaining: 310ms
786: learn: 0.3057092 total: 1.14s remaining: 308ms
787: learn: 0.3056560 total: 1.14s remaining: 307ms
788: learn: 0.3055962 total: 1.14s remaining: 305ms
789: learn: 0.3054797 total: 1.14s remaining: 304ms
790: learn: 0.3053897 total: 1.14s remaining: 302ms
791: learn: 0.3052374 total: 1.15s remaining: 301ms
792: learn: 0.3050075 total: 1.15s remaining: 299ms
793: learn: 0.3048238 total: 1.15s remaining: 298ms
794: learn: 0.3047499 total: 1.15s remaining: 296ms
795: learn: 0.3046197 total: 1.15s remaining: 295ms
796: learn: 0.3045709 total: 1.15s remaining: 293ms
797: learn: 0.3044930 total: 1.15s remaining: 292ms
798: learn: 0.3043799 total: 1.15s remaining: 290ms
799: learn: 0.3042820 total: 1.15s remaining: 289ms
800: learn: 0.3042035 total: 1.16s remaining: 287ms
801: learn: 0.3041019 total: 1.16s remaining: 286ms
802: learn: 0.3040114 total: 1.16s remaining: 284ms
803: learn: 0.3039131 total: 1.16s remaining: 283ms
804: learn: 0.3038290 total: 1.16s remaining: 281ms
805: learn: 0.3037285 total: 1.16s remaining: 280ms
806: learn: 0.3036579 total: 1.16s remaining: 278ms
807: learn: 0.3035833 total: 1.16s remaining: 277ms
808: learn: 0.3035569 total: 1.17s remaining: 275ms
809: learn: 0.3034761 total: 1.17s remaining: 274ms
810: learn: 0.3033724 total: 1.17s remaining: 272ms
811: learn: 0.3032817 total: 1.17s remaining: 271ms
812: learn: 0.3032183 total: 1.17s remaining: 269ms
813: learn: 0.3031719 total: 1.17s remaining: 268ms
814: learn: 0.3029525 total: 1.17s remaining: 266ms
815: learn: 0.3028799 total: 1.17s remaining: 265ms
816: learn: 0.3028050 total: 1.18s remaining: 264ms
817: learn: 0.3027027 total: 1.18s remaining: 262ms
818: learn: 0.3025810 total: 1.18s remaining: 260ms
819: learn: 0.3023860 total: 1.18s remaining: 259ms
820: learn: 0.3021585 total: 1.18s remaining: 257ms
821: learn: 0.3020363 total: 1.18s remaining: 256ms
822: learn: 0.3019386 total: 1.18s remaining: 255ms
823: learn: 0.3019096 total: 1.18s remaining: 253ms
824: learn: 0.3018617 total: 1.19s remaining: 252ms
825: learn: 0.3017613 total: 1.19s remaining: 250ms
826: learn: 0.3015585 total: 1.19s remaining: 249ms
827: learn: 0.3013956 total: 1.19s remaining: 247ms
828: learn: 0.3012389 total: 1.19s remaining: 246ms
829: learn: 0.3011230 total: 1.19s remaining: 244ms
830: learn: 0.3010559 total: 1.19s remaining: 243ms
831: learn: 0.3008565 total: 1.2s remaining: 241ms
832: learn: 0.3008183 total: 1.2s remaining: 240ms
833: learn: 0.3006803 total: 1.2s remaining: 239ms
834: learn: 0.3006294 total: 1.2s remaining: 237ms
835: learn: 0.3005203 total: 1.2s remaining: 236ms
836: learn: 0.3004081 total: 1.2s remaining: 234ms
837: learn: 0.3002502 total: 1.2s remaining: 233ms
838: learn: 0.3001240 total: 1.2s remaining: 231ms
839: learn: 0.3000292 total: 1.21s remaining: 230ms
840: learn: 0.2999318 total: 1.21s remaining: 228ms
841: learn: 0.2997170 total: 1.21s remaining: 227ms
842: learn: 0.2996148 total: 1.21s remaining: 225ms
843: learn: 0.2995434 total: 1.21s remaining: 224ms
844: learn: 0.2994289 total: 1.21s remaining: 222ms
845: learn: 0.2991488 total: 1.21s remaining: 221ms
846: learn: 0.2990000 total: 1.21s remaining: 219ms
```

840: learn: 0.2999992 total: 1.21s remaining: 219ms
847: learn: 0.2990218 total: 1.21s remaining: 218ms
848: learn: 0.2989204 total: 1.22s remaining: 216ms
849: learn: 0.2988203 total: 1.22s remaining: 215ms
850: learn: 0.2987219 total: 1.22s remaining: 213ms
851: learn: 0.2986664 total: 1.22s remaining: 212ms
852: learn: 0.2985469 total: 1.22s remaining: 211ms
853: learn: 0.2984693 total: 1.22s remaining: 209ms
854: learn: 0.2984020 total: 1.22s remaining: 208ms
855: learn: 0.2982327 total: 1.23s remaining: 206ms
856: learn: 0.2980946 total: 1.23s remaining: 205ms
857: learn: 0.2980420 total: 1.23s remaining: 203ms
858: learn: 0.2980107 total: 1.23s remaining: 202ms
859: learn: 0.2979242 total: 1.23s remaining: 200ms
860: learn: 0.2978257 total: 1.23s remaining: 199ms
861: learn: 0.2978029 total: 1.23s remaining: 198ms
862: learn: 0.2976776 total: 1.24s remaining: 196ms
863: learn: 0.2975870 total: 1.24s remaining: 195ms
864: learn: 0.2974639 total: 1.24s remaining: 193ms
865: learn: 0.2972939 total: 1.24s remaining: 192ms
866: learn: 0.2972155 total: 1.24s remaining: 190ms
867: learn: 0.2971131 total: 1.24s remaining: 189ms
868: learn: 0.2970467 total: 1.24s remaining: 187ms
869: learn: 0.2969723 total: 1.24s remaining: 186ms
870: learn: 0.2969301 total: 1.25s remaining: 185ms
871: learn: 0.2968335 total: 1.25s remaining: 183ms
872: learn: 0.2967135 total: 1.25s remaining: 182ms
873: learn: 0.2966667 total: 1.25s remaining: 180ms
874: learn: 0.2965458 total: 1.25s remaining: 179ms
875: learn: 0.2964836 total: 1.25s remaining: 177ms
876: learn: 0.2963296 total: 1.25s remaining: 176ms
877: learn: 0.2961967 total: 1.25s remaining: 174ms
878: learn: 0.2961442 total: 1.25s remaining: 173ms
879: learn: 0.2958780 total: 1.26s remaining: 171ms
880: learn: 0.2958207 total: 1.26s remaining: 170ms
881: learn: 0.2957372 total: 1.26s remaining: 168ms
882: learn: 0.2956462 total: 1.26s remaining: 167ms
883: learn: 0.2955631 total: 1.26s remaining: 165ms
884: learn: 0.2955419 total: 1.26s remaining: 164ms
885: learn: 0.2954691 total: 1.26s remaining: 163ms
886: learn: 0.2953616 total: 1.26s remaining: 161ms
887: learn: 0.2952944 total: 1.26s remaining: 160ms
888: learn: 0.2951752 total: 1.27s remaining: 158ms
889: learn: 0.2950741 total: 1.27s remaining: 157ms
890: learn: 0.2950118 total: 1.27s remaining: 155ms
891: learn: 0.2948808 total: 1.27s remaining: 154ms
892: learn: 0.2946069 total: 1.27s remaining: 153ms
893: learn: 0.2944556 total: 1.27s remaining: 151ms
894: learn: 0.2943538 total: 1.28s remaining: 150ms
895: learn: 0.2942827 total: 1.28s remaining: 148ms
896: learn: 0.2942218 total: 1.28s remaining: 147ms
897: learn: 0.2941523 total: 1.28s remaining: 145ms
898: learn: 0.2940716 total: 1.28s remaining: 144ms
899: learn: 0.2938460 total: 1.28s remaining: 142ms
900: learn: 0.2937496 total: 1.28s remaining: 141ms
901: learn: 0.2936473 total: 1.28s remaining: 140ms
902: learn: 0.2935383 total: 1.29s remaining: 138ms
903: learn: 0.2932741 total: 1.29s remaining: 137ms
904: learn: 0.2931433 total: 1.29s remaining: 135ms
905: learn: 0.2931072 total: 1.29s remaining: 134ms
906: learn: 0.2930124 total: 1.29s remaining: 133ms
907: learn: 0.2929507 total: 1.29s remaining: 131ms
908: learn: 0.2928749 total: 1.3s remaining: 130ms
909: learn: 0.2927964 total: 1.3s remaining: 128ms
910: learn: 0.2927355 total: 1.3s remaining: 127ms
911: learn: 0.2925072 total: 1.3s remaining: 126ms
912: learn: 0.2924350 total: 1.3s remaining: 124ms
913: learn: 0.2923893 total: 1.3s remaining: 123ms
914: learn: 0.2922643 total: 1.31s remaining: 121ms
915: learn: 0.2920757 total: 1.31s remaining: 120ms
916: learn: 0.2919972 total: 1.31s remaining: 119ms
917: learn: 0.2919382 total: 1.31s remaining: 117ms
918: learn: 0.2918792 total: 1.31s remaining: 116ms

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918: learn: 0.2919150 total: 1.31s remaining: 110ms
919: learn: 0.2917961 total: 1.31s remaining: 114ms
920: learn: 0.2916408 total: 1.31s remaining: 113ms
921: learn: 0.2915810 total: 1.31s remaining: 111ms
922: learn: 0.2915205 total: 1.32s remaining: 110ms
923: learn: 0.2914487 total: 1.32s remaining: 108ms
924: learn: 0.2914125 total: 1.32s remaining: 107ms
925: learn: 0.2911329 total: 1.32s remaining: 105ms
926: learn: 0.2910400 total: 1.32s remaining: 104ms
927: learn: 0.2908132 total: 1.32s remaining: 103ms
928: learn: 0.2906772 total: 1.32s remaining: 101ms
929: learn: 0.2905811 total: 1.32s remaining: 99.7ms
930: learn: 0.2905089 total: 1.33s remaining: 98.3ms
931: learn: 0.2903460 total: 1.33s remaining: 96.8ms
932: learn: 0.2901279 total: 1.33s remaining: 95.4ms
933: learn: 0.2899957 total: 1.33s remaining: 94ms
934: learn: 0.2899071 total: 1.33s remaining: 92.5ms
935: learn: 0.2898269 total: 1.33s remaining: 91.1ms
936: learn: 0.2895969 total: 1.33s remaining: 89.7ms
937: learn: 0.2894449 total: 1.33s remaining: 88.2ms
938: learn: 0.2893186 total: 1.33s remaining: 86.8ms
939: learn: 0.2892549 total: 1.34s remaining: 85.3ms
940: learn: 0.2891595 total: 1.34s remaining: 83.9ms
941: learn: 0.2891209 total: 1.34s remaining: 82.5ms
942: learn: 0.2890585 total: 1.34s remaining: 81.1ms
943: learn: 0.2890267 total: 1.34s remaining: 79.7ms
944: learn: 0.2889570 total: 1.34s remaining: 78.2ms
945: learn: 0.2888953 total: 1.34s remaining: 76.8ms
946: learn: 0.2886792 total: 1.35s remaining: 75.4ms
947: learn: 0.2884946 total: 1.35s remaining: 74ms
948: learn: 0.2883550 total: 1.35s remaining: 72.5ms
949: learn: 0.2881913 total: 1.35s remaining: 71.1ms
950: learn: 0.2880346 total: 1.35s remaining: 69.7ms
951: learn: 0.2880120 total: 1.35s remaining: 68.2ms
952: learn: 0.2878553 total: 1.35s remaining: 66.8ms
953: learn: 0.2877767 total: 1.35s remaining: 65.4ms
954: learn: 0.2877628 total: 1.36s remaining: 63.9ms
955: learn: 0.2876516 total: 1.36s remaining: 62.5ms
956: learn: 0.2875138 total: 1.36s remaining: 61.1ms
957: learn: 0.2874188 total: 1.36s remaining: 59.6ms
958: learn: 0.2873819 total: 1.36s remaining: 58.2ms
959: learn: 0.2872645 total: 1.36s remaining: 56.8ms
960: learn: 0.2872019 total: 1.36s remaining: 55.4ms
961: learn: 0.2871630 total: 1.36s remaining: 53.9ms
962: learn: 0.2870670 total: 1.37s remaining: 52.5ms
963: learn: 0.2869972 total: 1.37s remaining: 51.1ms
964: learn: 0.2868638 total: 1.37s remaining: 49.6ms
965: learn: 0.2866161 total: 1.37s remaining: 48.2ms
966: learn: 0.2865765 total: 1.37s remaining: 46.8ms
967: learn: 0.2863801 total: 1.37s remaining: 45.4ms
968: learn: 0.2862693 total: 1.37s remaining: 44ms
969: learn: 0.2862289 total: 1.38s remaining: 42.5ms
970: learn: 0.2861831 total: 1.38s remaining: 41.1ms
971: learn: 0.2861505 total: 1.38s remaining: 39.7ms
972: learn: 0.2861193 total: 1.38s remaining: 38.3ms
973: learn: 0.2859927 total: 1.38s remaining: 36.8ms
974: learn: 0.2859507 total: 1.38s remaining: 35.4ms
975: learn: 0.2858821 total: 1.38s remaining: 34ms
976: learn: 0.2857509 total: 1.38s remaining: 32.6ms
977: learn: 0.2856414 total: 1.38s remaining: 31.1ms
978: learn: 0.2855376 total: 1.39s remaining: 29.7ms
979: learn: 0.2854827 total: 1.39s remaining: 28.3ms
980: learn: 0.2853861 total: 1.39s remaining: 26.9ms
981: learn: 0.2853476 total: 1.39s remaining: 25.5ms
982: learn: 0.2853124 total: 1.39s remaining: 24.1ms
983: learn: 0.2852616 total: 1.39s remaining: 22.7ms
984: learn: 0.2852023 total: 1.4s remaining: 21.2ms
985: learn: 0.2851014 total: 1.4s remaining: 19.8ms
986: learn: 0.2850422 total: 1.4s remaining: 18.4ms
987: learn: 0.2849396 total: 1.4s remaining: 17ms
988: learn: 0.2848950 total: 1.4s remaining: 15.6ms
989: learn: 0.2848518 total: 1.4s remaining: 14.2ms
990: ----- 0.2846101 +----- 1.4s ----- 10.7ms
```

```
990: learn: 0.2840491 total: 1.4s remaining: 12.7ms
991: learn: 0.2845500 total: 1.4s remaining: 11.3ms
992: learn: 0.2844121 total: 1.41s remaining: 9.91ms
993: learn: 0.2843443 total: 1.41s remaining: 8.5ms
994: learn: 0.2843051 total: 1.41s remaining: 7.08ms
995: learn: 0.2842434 total: 1.41s remaining: 5.67ms
996: learn: 0.2841570 total: 1.41s remaining: 4.25ms
997: learn: 0.2840381 total: 1.41s remaining: 2.83ms
998: learn: 0.2839733 total: 1.42s remaining: 1.42ms
999: learn: 0.2839293 total: 1.42s remaining: 0us
Accuracy: 83.17 %
Standard Deviation: 4.70 %
```

Training various models on the Training set

1. Logistic Regression

In [36]:

```
from sklearn.linear_model import LogisticRegression
clf_lr = LogisticRegression(random_state=0)
clf_lr.fit(X_train, y_train)
```

Out[36]:

```
LogisticRegression(random_state=0)
```

In [37]:

```
y_pred_lr = clf_lr.predict(X_test)
```

2. K-Nearest Neighbor (K-NN)

In [38]:

```
from sklearn.neighbors import KNeighborsClassifier
clf_knn = KNeighborsClassifier(n_neighbors = 5, metric = 'minkowski', p = 2)
clf_knn.fit(X_train, y_train)
```

Out[38]:

```
KNeighborsClassifier()
```

In [39]:

```
y_pred_knn = clf_knn.predict(X_test)
```

3. Support Vector Machine (SVM)

In [40]:

```
from sklearn.svm import SVC
clf_svc = SVC(kernel='linear', random_state=0)
clf_svc.fit(X_train, y_train)
```

Out[40]:

```
SVC(kernel='linear', random_state=0)
```

In [41]:

```
y_pred_svc = clf_svc.predict(X_test)
```

4. Kernel SVM

In [42]:

```
from sklearn.svm import SVC
clf_kernelSVC = SVC(kernel='rbf', random_state=0)
clf_kernelSVC.fit(X_train, y_train)
```

Out[42]:

```
SVC(random_state=0)
```

In [43]:

```
y_pred_kernelSVC = clf_kernelSVC.predict(X_test)
```

5. Naïve Bayes

In [44]:

```
from sklearn.naive_bayes import GaussianNB
clf_nb = GaussianNB()
clf_nb.fit(X_train, y_train)
```

Out[44]:

```
GaussianNB()
```

In [45]:

```
y_pred_nb = clf_nb.predict(X_test)
```

6. Decision Tree

6.1 with GINI

In [46]:

```
from sklearn.tree import DecisionTreeClassifier
clf_dtGINI = DecisionTreeClassifier(criterion='gini', random_state=0)
clf_dtGINI.fit(X_train, y_train)
```

Out[46]:

```
DecisionTreeClassifier(random_state=0)
```

In [47]:

```
y_pred_dtGINI = clf_dtGINI.predict(X_test)
```

6.2 with ENTROPY

In [48]:

```
from sklearn.tree import DecisionTreeClassifier
clf_dtENTROPY = DecisionTreeClassifier(criterion='entropy', random_state=0)
clf_dtENTROPY.fit(X_train, y_train)
```

Out[48]:

```
DecisionTreeClassifier(criterion='entropy', random_state=0)
```

In [49]:

```
y_pred_dtENTROPY = clf_dtENTROPY.predict(X_test)
```

7. Random Forest Classifier

7.2 with ENTROPY

In [50]:

```
from sklearn.ensemble import RandomForestClassifier
clf_rfcGINI = RandomForestClassifier(n_estimators = 10, criterion = 'gini', random_state = 0)
clf_rfcGINI.fit(X_train, y_train)
```

Out[50]:

```
RandomForestClassifier(n_estimators=10, random_state=0)
```

In [51]:

```
y_pred_rfcGINI = clf_rfcGINI.predict(X_test)
```

7.2 with ENTROPY

In [52]:

```
from sklearn.ensemble import RandomForestClassifier
clf_rfcENTROPY = RandomForestClassifier(n_estimators = 10, criterion = 'entropy', random_state = 0)
clf_rfcENTROPY.fit(X_train, y_train)
```

Out[52]:

```
RandomForestClassifier(criterion='entropy', n_estimators=10, random_state=0)
```

In [53]:

```
y_pred_rfcENTROPY = clf_rfcENTROPY.predict(X_test)
```

Evaluating the model performance with Confusion Matrix

In [54]:

```
pip install -U prettytable
```

```
Requirement already satisfied: prettytable in /opt/conda/lib/python3.7/site-packages (2.4.0)
Collecting prettytable
  Downloading prettytable-3.0.0-py3-none-any.whl (24 kB)
Requirement already satisfied: wcwidth in /opt/conda/lib/python3.7/site-packages (from prettytable) (0.2.5)
Requirement already satisfied: importlib-metadata in /opt/conda/lib/python3.7/site-packages (from prettytable) (4.10.1)
Requirement already satisfied: zipp>=0.5 in /opt/conda/lib/python3.7/site-packages (from importlib-metadata->prettytable) (3.6.0)
Requirement already satisfied: typing-extensions>=3.6.4 in /opt/conda/lib/python3.7/site-packages (from importlib-metadata->prettytable) (3.10.0.2)
Installing collected packages: prettytable
  Attempting uninstall: prettytable
    Found existing installation: prettytable 2.4.0
    Uninstalling prettytable-2.4.0:
      Successfully uninstalled prettytable-2.4.0
Successfully installed prettytable-3.0.0
WARNING: Running pip as the 'root' user can result in broken permissions and conflicting behaviour with the system package manager. It is recommended to use a virtual environment instead: https://pip.pypa.io/warnings/venv
Note: you may need to restart the kernel to use updated packages.
```

In [55]:

```
from prettytable import PrettyTable
from sklearn.metrics import confusion_matrix, accuracy_score
```

In [56]:

```

evaluataionTable = PrettyTable()
evaluataionTable.field_names = ["Model", "Confusion Matrix", "Accuracy"]
evaluataionTable.add_row(["Logistic Regression", confusion_matrix(y_test, y_pred_lr), accuracy_score(y_test, y_pred_lr)])
evaluataionTable.add_row(["-----", "-----", "-----"])
evaluataionTable.add_row(["K Nearest Neighbor", confusion_matrix(y_test, y_pred_knn), accuracy_score(y_test, y_pred_knn)])
evaluataionTable.add_row(["-----", "-----", "-----"])
evaluataionTable.add_row(["Support Vector Machine", confusion_matrix(y_test, y_pred_svc), accuracy_score(y_test, y_pred_svc)])
evaluataionTable.add_row(["-----", "-----", "-----"])
evaluataionTable.add_row(["SVM Kernel", confusion_matrix(y_test, y_pred_kernelSVC), accuracy_score(y_test, y_pred_kernelSVC)])
evaluataionTable.add_row(["-----", "-----", "-----"])
evaluataionTable.add_row(["Naïve Bayes", confusion_matrix(y_test, y_pred_nb), accuracy_score(y_test, y_pred_nb)])
evaluataionTable.add_row(["-----", "-----", "-----"])
evaluataionTable.add_row(["Decision Tree (with GINI)", confusion_matrix(y_test, y_pred_dtGINI), accuracy_score(y_test, y_pred_dtGINI)])
evaluataionTable.add_row(["-----", "-----", "-----"])
evaluataionTable.add_row(["Decision Tree (with Entropy)", confusion_matrix(y_test, y_pred_dtENTROPY), accuracy_score(y_test, y_pred_dtENTROPY)])
evaluataionTable.add_row(["-----", "-----", "-----"])
evaluataionTable.add_row(["Random Forest (with GINI)", confusion_matrix(y_test, y_pred_rfcGINI), accuracy_score(y_test, y_pred_rfcGINI)])
evaluataionTable.add_row(["-----", "-----", "-----"])
evaluataionTable.add_row(["Random Forest (with ENTROPY)", confusion_matrix(y_test, y_pred_rfcENTROPY), accuracy_score(y_test, y_pred_rfcENTROPY)])
print(evaluataionTable)

```

Model	Confusion Matrix	Accuracy
Logistic Regression	[[253 13] [10 142]]	0.9449760765550239
K Nearest Neighbor	[[231 35] [24 128]]	0.8588516746411483
Support Vector Machine	[[266 0] [0 152]]	1.0
SVM Kernel	[[256 10] [31 121]]	0.9019138755980861
Naïve Bayes	[[223 43] [12 140]]	0.868421052631579
Decision Tree (with GINI)	[[218 48] [36 116]]	0.7990430622009569
Decision Tree (with Entropy)	[[221 45] [37 115]]	0.8038277511961722
Random Forest (with GINI)	[[237 29] [36 116]]	0.8444976076555024
Random Forest (with ENTROPY)	[[234 32] [40 112]]	0.8277511961722488

Confusion Matrix :

In [57]:

```
confusionMatrixTable = PrettyTable()
confusionMatrixTable.field_names = ["Model", "Accuracy"]
confusionMatrixTable.add_row(["Logistic Regression", confusion_matrix(y_test, y_pred_lr)])
confusionMatrixTable.add_row(["K Nearest Neighbor", confusion_matrix(y_test, y_pred_knn)])
confusionMatrixTable.add_row(["Support Vector Machine", confusion_matrix(y_test, y_pred_svm)])
confusionMatrixTable.add_row(["SVM Kernel", confusion_matrix(y_test, y_pred_kernelSVC)])
confusionMatrixTable.add_row(["Naïve Bayes", confusion_matrix(y_test, y_pred_nb)])
confusionMatrixTable.add_row(["Decision Tree (with GINI)", confusion_matrix(y_test, y_pred_dtGINI)])
confusionMatrixTable.add_row(["Decision Tree (with Entropy)", confusion_matrix(y_test, y_pred_dtENTROPY)])
confusionMatrixTable.add_row(["Random Forest (with GINI)", confusion_matrix(y_test, y_pred_rfcGINI)])
confusionMatrixTable.add_row(["Random Forest (with ENTROPY)", confusion_matrix(y_test, y_pred_rfCENTROPY)])
print(confusionMatrixTable)
```

Model	Accuracy
Logistic Regression	[[253 13] [10 142]]
K Nearest Neighbor	[[231 35] [24 128]]
Support Vector Machine	[[266 0] [0 152]]
SVM Kernel	[[256 10] [31 121]]
Naïve Bayes	[[223 43] [12 140]]
Decision Tree (with GINI)	[[218 48] [36 116]]
Decision Tree (with Entropy)	[[221 45] [37 115]]
Random Forest (with GINI)	[[237 29] [36 116]]
Random Forest (with ENTROPY)	[[234 32] [40 112]]

Accuracy Table :

In [58]:

```
AccuracyTable = PrettyTable()
AccuracyTable.field_names = ["Model", "Accuracy"]
AccuracyTable.add_row(["Logistic Regression", accuracy_score(y_test, y_pred_lr)])
AccuracyTable.add_row(["K Nearest Neighbor", accuracy_score(y_test, y_pred_knn)])
AccuracyTable.add_row(["Support Vector Machine", accuracy_score(y_test, y_pred_svm)])
AccuracyTable.add_row(["SVM Kernel", accuracy_score(y_test, y_pred_kernelSVC)])
AccuracyTable.add_row(["Naïve Bayes", accuracy_score(y_test, y_pred_nb)])
AccuracyTable.add_row(["Decision Tree (with GINI)", accuracy_score(y_test, y_pred_dtGINI)])
AccuracyTable.add_row(["Decision Tree (with Entropy)", accuracy_score(y_test, y_pred_dtENTROPY)])
AccuracyTable.add_row(["Random Forest (with GINI)", accuracy_score(y_test, y_pred_rfcGINI)])
AccuracyTable.add_row(["Random Forest (with ENTROPY)", accuracy_score(y_test, y_pred_rfCENTROPY)])
print(AccuracyTable)
```

Model	Accuracy
Loaistic Rearession	0.9449760765550239

K Nearest Neighbor	0.8588516746411483
Support Vector Machine	1.0
SVM Kernel	0.9019138755980861
Naïve Bayes	0.868421052631579
Decision Tree (with GINI)	0.7990430622009569
Decision Tree (with Entropy)	0.8038277511961722
Random Forest (with GINI)	0.8444976076555024
Random Forest (with ENTROPY)	0.8277511961722488

In [59]:

```
output = pd.DataFrame({"PassengerId": test_dataset.PassengerId, "Survived": y_pred_kernelSVC})
print(output)
output.to_csv('19BCE245_DL_Prac1_kernelSVC.csv', index=False)
```

	PassengerId	Survived
0	892	0
1	893	0
2	894	0
3	895	0
4	896	0
..
413	1305	0
414	1306	1
415	1307	0
416	1308	0
417	1309	0

[418 rows x 2 columns]

Grid Search with SVM

- taking too much load.

IGNORE THIS SECTION.

In [60]:

```
# from sklearn.svm import SVC
# classifier = SVC(kernel = 'rbf', random_state = 0)
# classifier.fit(X_train, y_train)

# from sklearn.metrics import confusion_matrix, accuracy_score
# y_pred = classifier.predict(X_test)
# cm = confusion_matrix(y_test, y_pred)
# print(cm)
# accuracy_score(y_test, y_pred)
```

In [61]:

```
# # k-fold
# from sklearn.model_selection import cross_val_score
# accuracies = cross_val_score(estimator=classifier, X=X_train, y=y_train, cv=10)
# print(f"Accuracy : {accuracies.mean()*100:.2f}%")
# print(f"Standard Deviation : {accuracies.std()*100:.2f}%")
```

In [62]:

```
# #grid search
# from sklearn.model_selection import GridSearchCV
# parameters = [
#     {
#         'C' : np.linspace(0.01, 1,num=10).tolist(),      # [0, 0.25, 0.5, 0.75,
# 1]
#         'kernel' : ['linear'],
```

```

#           'degree' : [3, 4, 5],
#
#           {
#               'C' : np.linspace(0.01, 1,num=10).tolist(),      # [0, 0.25, 0.5, 0.75,
1]
#               'kernel' : ['rbf','poly','sigmoid'],
#               'gamma' : np.linspace(0.01, 1,num=10).tolist(), # [0.1, 0.2, 0.3, 0.4
, 0.5, 0.6, 0.7, 0.8, 0.9]
#               'degree' : [3,4,5],
#
#           }
#
#       ]
# grid_search = GridSearchCV(estimator=classifier,
#                             param_grid=parameters,
#                             scoring='accuracy',  # As we are doing classification, we a
re using accuracy for scoring models
#                             cv=10, # number of folds (same like k-fold cross validation
)
#                             n_jobs=-1 # all your processors will be used available in h
ardware
#
# grid_search.fit(X_train, y_train)

```

In [63]:

```

# #grid search 2 (smaller one)
# from sklearn.model_selection import GridSearchCV
# parameters = [
#     # {
#         # {
#             # 'C' : [0, 0.25, 0.5, 0.75, 1],
#             # 'kernel' : ['linear'],
#             # 'degree' : [3, 4, 5],
#         },
#         {
#             'C' : [0, 0.3, 0.65, 1],
#             'kernel' : ['rbf','poly','sigmoid'],
#             'gamma' : [0.1, 0.5, 0.9],
#             'degree' : [3, 4, 5],
#         }
#     }
# ]
# grid_search = GridSearchCV(estimator=classifier,
#                             param_grid=parameters,
#                             scoring='accuracy',  # As we are doing classification, we a
re using accuracy for scoring models
#                             cv=4, # number of folds (same like k-fold cross validation)
#                             n_jobs=-1 # all your processors will be used available in h
ardware
#
# grid_search.fit(X_train, y_train)

```

In [64]:

```

# best_accuracy = grid_search.best_score_
# print(f"Best Accuracy achieved : {best_accuracy*100:.2f}%")

```

In [65]:

```

# best_parameters = grid_search.best_params_
# print(f"Best parameters achieved : {best_parameters}")

```