

```

1 "C:\Users\My PC\AppData\Local\Programs\Python\Python36-32\
  python.exe" D:/pfe/Projets/pfe/equilibrer_dataset_BLOB.py
2 count      16435
3 unique      2
4 top        False
5 freq       16033
6 Name: is_code_smell, dtype: object
7 RandomUnderSampler by default
8 is_code_smell
9 count      804
10 unique     2
11 top        True
12 freq       402
13 Name: is_code_smell, dtype: object
14      lack_of_cohesion_in_methods  number_of_methods
      number_of_attributes
15 count                        804.000000      804.000000
      804.000000
16 mean                        365.915423      18.621891
      11.165423
17 std                        1625.783638      24.634288
      15.096081
18 min                        0.000000      0.000000
      0.000000
19 25%                        0.000000      2.000000
      1.000000
20 50%                        13.000000      8.500000
      6.500000
21 75%                        222.750000      27.000000
      17.000000
22 max                        33640.000000      260.000000
      152.000000
23 RandomUnderSampler
24 is_code_smell
25 count      804
26 unique      2
27 top        True
28 freq       402
29 Name: is_code_smell, dtype: object
30      lack_of_cohesion_in_methods  number_of_methods
      number_of_attributes
31 count                        804.000000      804.000000
      804.000000
32 mean                        365.986318      18.639303
      11.149254

```

33	std	1625.767783	24.625347
		15.104290	
34	min	0.000000	0.000000
		0.000000	
35	25%	0.000000	2.000000
		1.000000	
36	50%	13.500000	9.000000
		6.500000	
37	75%	222.750000	27.000000
		17.000000	
38	max	33640.000000	260.000000
		152.000000	
39	AllKNN		
40	is_code_smell		
41	count	16435	
42	unique	2	
43	top	False	
44	freq	16033	
45	Name: is_code_smell, dtype: object		
46	lack_of_cohesion_in_methods	number_of_methods	
	number_of_attributes		
47	count	16435.000000	16435.000000
		16435.000000	
48	mean	19.283541	3.65251
		1.595011	
49	std	367.883587	6.64153
		4.135546	
50	min	0.000000	0.000000
		0.000000	
51	25%	0.000000	2.000000
		0.000000	
52	50%	0.000000	2.000000
		1.000000	
53	75%	1.000000	4.000000
		2.000000	
54	max	33640.000000	260.000000
		152.000000	
55	CondensedNearestNeighbour		
56	is_code_smell		
57	count	405	
58	unique	2	
59	top	True	
60	freq	402	
61	Name: is_code_smell, dtype: object		
62	lack_of_cohesion_in_methods	number_of_methods	

```

62 number_of_attributes
63 count          405.000000          405.000000
        405.000000
64 mean          725.234568          34.249383
        21.108642
65 std          2234.462008          26.645073
        15.874447
66 min           0.000000          2.000000
        2.000000
67 25%          108.000000          19.000000
        12.000000
68 50%          219.000000          26.000000
        17.000000
69 75%          586.000000          40.000000
        24.000000
70 max          33640.000000         260.000000
        152.000000
71 TomekLinks
72 is_code_smell
73 count        16435
74 unique         2
75 top          False
76 freq         16033
77 Name: is_code_smell, dtype: object
78      lack_of_cohesion_in_methods  number_of_methods
      number_of_attributes
79 count          16435.000000         16435.00000
        16435.000000
80 mean          19.283541          3.65251
        1.595011
81 std          367.883587          6.64153
        4.135546
82 min           0.000000          0.00000
        0.000000
83 25%           0.000000          2.00000
        0.000000
84 50%           0.000000          2.00000
        1.000000
85 75%           1.000000          4.00000
        2.000000
86 max          33640.000000         260.00000
        152.000000
87 InstanceHardnessThreshold
88 is_code_smell
89 count        16435

```

```

90 unique          2
91 top             False
92 freq           16033
93 Name: is_code_smell, dtype: object
94      lack_of_cohesion_in_methods  number_of_methods
   number_of_attributes
95 count                16435.000000                16435.00000
   16435.000000
96 mean                19.283541                3.65251
   1.595011
97 std                367.883587                6.64153
   4.135546
98 min                0.000000                0.00000
   0.000000
99 25%                0.000000                2.00000
   0.000000
100 50%               0.000000                2.00000
   1.000000
101 75%               1.000000                4.00000
   2.000000
102 max              33640.000000                260.00000
   152.000000
103 NearMiss
104 is_code_smell
105 count           804
106 unique          2
107 top             True
108 freq            402
109 Name: is_code_smell, dtype: object
110      lack_of_cohesion_in_methods  number_of_methods
   number_of_attributes
111 count                804.000000                804.000000
   804.000000
112 mean                370.475124                20.503731
   11.976368
113 std                1624.765398                23.447803
   14.561612
114 min                6.000000                5.000000
   1.000000
115 25%                10.000000                6.000000
   3.000000
116 50%                14.000000                9.000000
   6.500000
117 75%                222.750000                27.000000
   17.000000

```

```
118 max                33640.000000          260.000000
                        152.000000
119 OneSidedSelection
120 is_code_smell
121 count              578
122 unique              2
123 top                 True
124 freq                402
125 Name: is_code_smell, dtype: object
126      lack_of_cohesion_in_methods  number_of_methods
      number_of_attributes
127 count                578.000000          578.000000
                        578.000000
128 mean                511.904844          26.048443
                        15.544983
129 std                1898.042228          25.594852
                        15.791938
130 min                 3.000000           3.000000
                        0.000000
131 25%                 13.000000           8.000000
                        4.000000
132 50%                 116.000000          20.000000
                        12.000000
133 75%                 359.000000          32.000000
                        21.000000
134 max                33640.000000          260.000000
                        152.000000
135
136 Process finished with exit code 0
137
```