

```

1 "C:\Users\My PC\AppData\Local\Programs\Python\Python36-32\
  python.exe" D:/pfe/Projets/pfe/apprentissage_MIM.py
2
3
4
5 -----Decision Tree-----
6
7
8
9 dataset/MIM/taken/MIM_del.csv
10
11
12
13 count      2405
14 unique      2
15 top        True
16 freq       1642
17 Name: is_code_smell, dtype: object
18 [[392    0]
19   [ 0 811]]
20 the recall for this model is : 1.0
21 TP 811
22 TN 392
23 FP 0
24 FN 0
25
26 -----Classification Report
  -----
27                precision    recall  f1-score   support
28
29      False         1.00      1.00      1.00         392
30      True          1.00      1.00      1.00         811
31
32   micro avg         1.00      1.00      1.00        1203
33   macro avg         1.00      1.00      1.00        1203
34 weighted avg         1.00      1.00      1.00        1203
35
36 Precision =  1.0
37 Rappel=  1.0
38 F_Mesure= 1.0
39
40
41
42 -----Decision Tree-----
43

```

```

44
45
46 dataset/MIM/taken/MIM_RandomUnderSampler.csv
47
48
49
50 count      1526
51 unique      2
52 top        True
53 freq        763
54 Name: is_code_smell, dtype: object
55 [[374    0]
56  [ 0 389]]
57 the recall for this model is : 1.0
58 TP 389
59 TN 374
60 FP 0
61 FN 0
62
63 -----Classification Report
64 -----
65
66                precision    recall  f1-score   support
67
68      False         1.00        1.00        1.00        374
69      True          1.00        1.00        1.00        389
70
71   micro avg         1.00        1.00        1.00        763
72   macro avg         1.00        1.00        1.00        763
73 weighted avg         1.00        1.00        1.00        763
74
75 Precision = 1.0
76 Rappel= 1.0
77 F_Mesure= 1.0
78
79 -----Random Forest-----
80
81
82
83 dataset/MIM/taken/MIM_del.csv
84
85
86
87 count      2405

```

```

88 unique          2
89 top             True
90 freq            1642
91 Name: is_code_smell, dtype: object
92 [[401    0]
93  [ 0 802]]
94 the recall for this model is : 1.0
95 TP 802
96 TN 401
97 FP 0
98 FN 0
99
100 -----Classification Report
101      precision    recall  f1-score   support
102
103      False        1.00      1.00      1.00         401
104      True         1.00      1.00      1.00         802
105
106   micro avg       1.00      1.00      1.00       1203
107   macro avg       1.00      1.00      1.00       1203
108 weighted avg       1.00      1.00      1.00       1203
109
110 Precision =  1.0
111 Rappel=  1.0
112 F_Mesure= 1.0
113
114
115
116 -----Random Forest-----
117
118
119
120 dataset/MIM/taken/MIM_RandomUnderSampler.csv
121
122
123
124 count          1526
125 unique          2
126 top             True
127 freq            763
128 Name: is_code_smell, dtype: object
129 [[363    0]
130  [ 0 400]]
131 the recall for this model is : 1.0

```

```
132 TP 400
133 TN 363
134 FP 0
135 FN 0
136
137 -----Classification Report
    -----
138                precision    recall  f1-score   support
139
140         False           1.00      1.00      1.00         363
141         True            1.00      1.00      1.00         400
142
143    micro avg           1.00      1.00      1.00         763
144    macro avg           1.00      1.00      1.00         763
145 weighted avg           1.00      1.00      1.00         763
146
147 Precision =  1.0
148 Rappel=  1.0
149 F_Mesure= 1.0
150
151
152
153 -----Naive Bayes-----
154
155
156
157 dataset/MIM/taken/MIM_del.csv
158
159
160
161 count      2405
162 unique      2
163 top        True
164 freq       1642
165 Name: is_code_smell, dtype: object
166 [[347    0]
167  [ 0 856]]
168 the recall for this model is : 1.0
169 TP 856
170 TN 347
171 FP 0
172 FN 0
173
174 -----Classification Report
    -----
```

```

175                precision    recall  f1-score   support
176
177         False           1.00      1.00      1.00         347
178         True            1.00      1.00      1.00         856
179
180    micro avg           1.00      1.00      1.00        1203
181    macro avg           1.00      1.00      1.00        1203
182 weighted avg           1.00      1.00      1.00        1203
183
184 Precision =  1.0
185 Rappel=  1.0
186 F_Mesure= 1.0
187
188
189
190 -----Naive Bayes-----
191
192
193
194 dataset/MIM/taken/MIM_RandomUnderSampler.csv
195
196
197
198 count      1526
199 unique       2
200 top         True
201 freq        763
202 Name: is_code_smell, dtype: object
203 [[404    0]
204  [  0 359]]
205 the recall for this model is : 1.0
206 TP 359
207 TN 404
208 FP 0
209 FN 0
210
211 -----Classification Report
212 -----
213                precision    recall  f1-score   support
214
215         False           1.00      1.00      1.00         404
216         True            1.00      1.00      1.00         359
217
218    micro avg           1.00      1.00      1.00         763
219    macro avg           1.00      1.00      1.00         763

```

```
219 weighted avg          1.00          1.00          1.00          763
220
221 Precision =  1.0
222 Rappel=  1.0
223 F_Mesure= 1.0
224
225
226
227 -----SVM-----
228
229
230
231 dataset/MIM/taken/MIM_del.csv
232
233
234
235 count      2405
236 unique      2
237 top        True
238 freq       1642
239 Name: is_code_smell, dtype: object
240 [[378    0]
241  [  0 825]]
242 the recall for this model is : 1.0
243 TP 825
244 TN 378
245 FP 0
246 FN 0
247
248 -----Classification Report
249 -----
250
251                precision    recall  f1-score   support
252
253     False         1.00        1.00        1.00         378
254     True          1.00        1.00        1.00         825
255
256  micro avg         1.00        1.00        1.00        1203
257  macro avg         1.00        1.00        1.00        1203
258  weighted avg         1.00        1.00        1.00        1203
259
260 Precision =  1.0
261 Rappel=  1.0
262 F_Mesure= 1.0
```

```
263
264 -----SVM-----
265
266
267
268 dataset/MIM/taken/MIM_RandomUnderSampler.csv
269
270
271
272 count      1526
273 unique      2
274 top        True
275 freq       763
276 Name: is_code_smell, dtype: object
277 [[403    0]
278  [ 0 360]]
279 the recall for this model is : 1.0
280 TP 360
281 TN 403
282 FP 0
283 FN 0
284
285 -----Classification Report
286 -----
287
288                precision    recall  f1-score   support
289
290   False           1.00      1.00      1.00         403
291   True            1.00      1.00      1.00         360
292
293  micro avg           1.00      1.00      1.00         763
294  macro avg           1.00      1.00      1.00         763
295  weighted avg          1.00      1.00      1.00         763
296
297 Precision = 1.0
298 Rappel= 1.0
299 F_Mesure= 1.0
300
301 Process finished with exit code 0
302
```