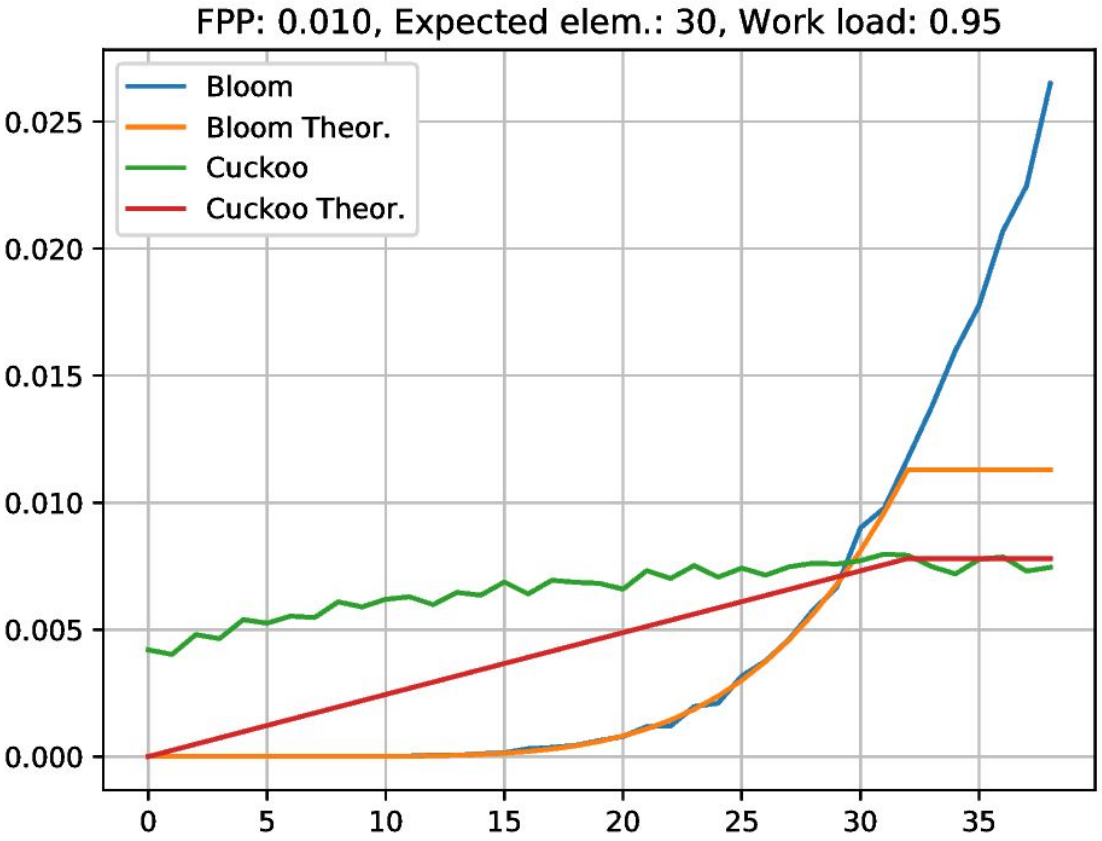
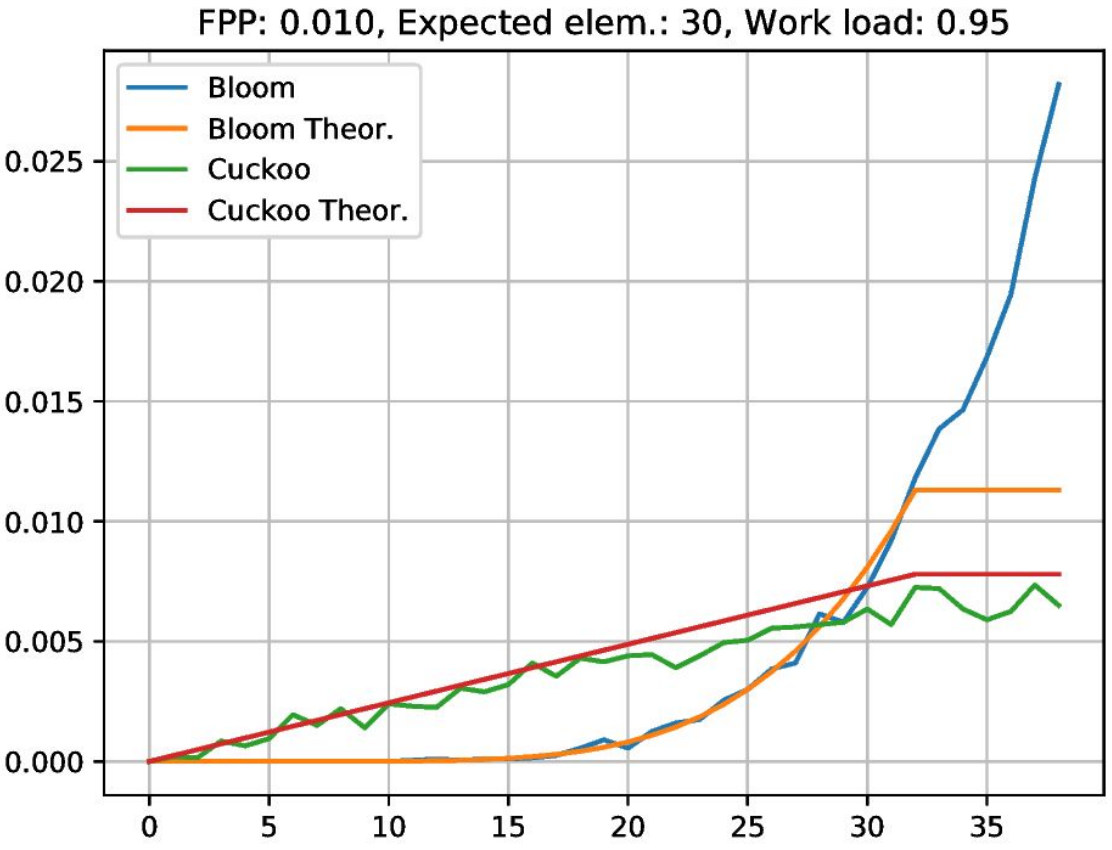
Assignment 2. Probabilistic filters.

9. Resulting chart

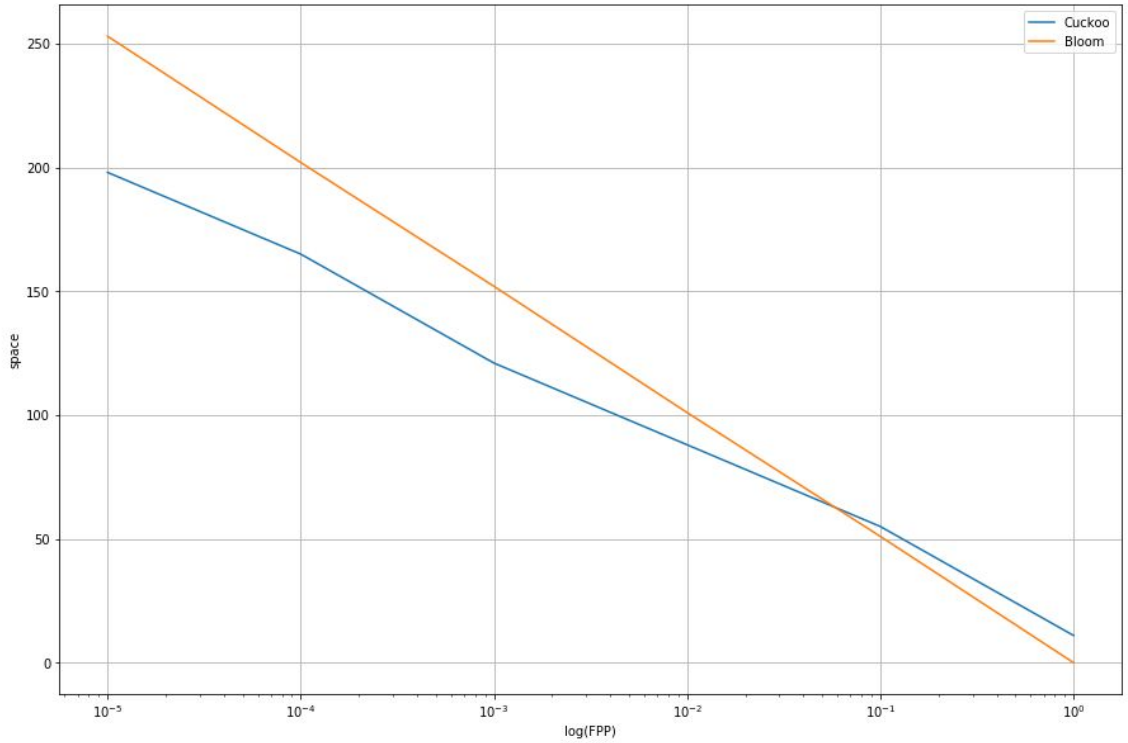


10. Cuckoo fix

    Originally, Cuckoo empirical failure probability is increased due to the fact that zero value for the fingerprint is not prohibited. In this case, the fingerprint cannot be distinguished from an empty cell. Additionally, at low fingerprint sizes, this case realises rather frequently. The immediate solution is prohibition of zero fingerprint value.


FPP: 0.010, Expected elem.: 30, Work load: 0.95
Bloom
Bloom Theor.
Cuckoo
Cuckoo Theor.
0.025
0.020
0.015
0.010
0.005
0.000
0
5
10
15
20
25
30
35

11.


Cuckoo
Bloom
250
200
150
100
50
0
space
10^{-5}
10^{-4}
10^{-3}
10^{-2}
10^{-1}
10^{0}
log(FPP)