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HOMEWORK 4 (VERSION A)

1)
```
                    ||   37    |    68    |    88    ||
                    /         |         |           \
          ||17|28|34|36||   ||54|56||   ||74|81|83|87||    ||89|94||
```

2)
```
                      ||           47           ||
                      /                          \
            ||  8  |  19  ||         ||    50    |    76    ||
            /     |      \        /           |           \
         ||1||    ||15||   ||27||  ||43|45||  ||52|58||    ||79|85||
```

3a) M : 9630b = (M – 1) (16) + M4b
: 9630b = M16b – 16b + M4b
: 9646b = M20b => floor(482.3) = 482

L : floor(9630b / 2048b) = 4

b) Worst case: ceil(10,953/ (483/2)) = 46
Best case : (10,953 * 2048b) / 9630b = 2330

c) height = ceil($\log_{241}$ 10,953) = 2

d) disk access = 2 -1 = 1

4)

LINEAR	QUADRATIC
29	29
59	59
2	2
32	32
60	61
92	92
35	35
94	94
61	8

8	42
68	68
40	40
69	69
70	70
72	72
15	15
14	99
99	45
18	76
77	77
47	78
48	30
80	47
30	14
93	88
88	
42	80
78	60
86	86

NUMBER OF PROBES
LINEAR: 108
QUADRATIC : 68