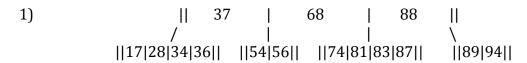
Neh Patel 341-02 npatel10@umbc.edu mh51010

HOMEWORK 4 (VERSION A)



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

NUMBER OF PROBES

LINEAR: 108 QUADRATIC: 68