Clayton Samson

CSC 3102 HW 2

1. log2(n+1) is O(log(n))

f(n) = log2(n+1)

g(n) = log(n)

f(2) = 1.5849 c \* g(2) = 2

f(3) = 2 c \* g(3) = 3.1699

f(10) = 3.4594 c \* g(10) = 6.6438

2 – A.)

2 – B.)

2 – C.)

c = 1

n0 = 1

≤

3 – A.)

3 – B.)

3 – C.)

c = 1

n0 = 1

≤

4 - A.) search(A, 1, 16, 13)

search(A, 1, 8, 13)

search(A, 1, 4, 13)

search(A, 3, 2, 13)

search(A, 3, 1, 13)

4 – B.)

4 – C.)

Will hit base case when

Solving for *i*:

n = 2i

4 – D.)

; g

; n0

5.)

Will hit base case when

Solving for *I*: