**LAB 02: SOLVING RECURRENCE RELATIONS**

1. **Solve the following recurrence relations with Master theorem**

b. CN = CN/2 + 1000

a = 1, b = 2,

* a = 1 = b^k (2^0)

c. CN = 3CN/2 + N

a = 3, b = 2,

* a = 3 > b^k (2^1)

d. C (N) = 2C (N/2) + 1

a = 2, b = 2,

* a = 2 > b^k (2^0)

e. CN = 4cN/2 + N

a = 4, b = 2,

* a = 4 > b^k (2^1)

f. C (N) = 9C (N/3) + N

a = 9, b = 3,

* a = 9 > b^k (3^2)

g. C (N) = C (2N/3) + 1

a = 1, b = 3/2,

* a = 1 = b^k (3/2^2)

h. C (N) = 3C (N/4) + N2

a = 3, b = 4,

* a = 3 < b^k (4^2)

a = 3, b = 3,

* a = 3 < b^k (3^(1/2))

j.

a = 3, b = 3,

* a = 3 < b^k (3^2.5)

k.

a = 3, b = 3,

* a = 3 < b^k (3^3)

l.

a = 3, b = 3,

* a = 3 > b^k (3^0)

m.

a = 3, b = 3,

* a = 3 < b^k (3^2)