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Programming Fundamentals III COSC 2336

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Project 1 (200 Points)

**Part I: (100 Points)**

Describe in your own words and in detail with example what are the following 7 functions are in Analysis Tools:

The Constant Function:

The Logarithm Function:

The N-Log-N Function:

The Quadratic Function:

The Cubic Function and Other Polynomials:

The Exponential Function

**Part II: (75 Points)**

Describe in your own words and in detail with example what are the following two:

Asymptotic Notation

Asymptotic Analysis

**Part III: (25 Points)**

What would be the output of the following sequence of queue operations:

enqueue(5), enqueue(3),dequeue(),enqueue(2),enqueue(8),dequeue(),

dequeue(),enqueue(9),enqueue(1),dequeue(),enqueue(7),enqueue(6),

dequeue(),dequeue(),enqueue(4),dequeue(),dequeue(),

**Output:** Enqueue (5), Enqueue (3 ), Dequeue ( ), Enqueue(2), Enqueue(8 ), Dequeue ( ), Dequeue ( ),

   5                    5,3                3                     3,2                 3,2,8         2,8                    8

Enqueue(9 ), Enqueue( 1), Dequeue ( ), Enqueue (7), Enqueue (6), Dequeue ( ), Dequeue ( ),

     8,9              8,9,1                9,1                9,1,7           9,1,7,6            1,7,6                   7,6

Enqueue(4 ), Dequeue ( ), Dequeue ( ),

     7,6,4           6,4                     4