**Algorithm Summary Form**

**Problem Statement:**

**Find the largest element in a list of n positive integers.**

**Algorithm Name:**

**Algorithm Family: Brute Force**

**Pseudocode**

max\_index = 0

for i 1 to n-1

  if A[i] > A[max\_index]

max\_index = i

return(A[i])

**Running Time Analysis:**

Input Size = n

Basic Operation = comparison

Single loop 1 to n-1 comparisons

From 1 to n assignments.

**Best Case: n-1 comparisons, 1 assignment**

**Worst Case: n-1 comparisons, n assignments**

**Average Case: n-1 comparisons, n/2 assignments**

**Application Area: Simple searches of unsorted data**

**Proof: n-1∑i=1(1 + 1) = n-l**