Big O Notations in Arrays  
  
Best case conditions – Omega Ω

Average case conditions – Theta Ɵ

Worst case conditions – O

**Time Complexity Question:-**int sum = 0;

for (int i = 0; i < n; i++) {

for (int j = i; j < n; j++) {

sum += i \* j;

}

}

When i=0 , inner loops runs for n  
When i=1 inner loop runs for n-1  
When i=2 inner loop runs for n-2

……  
When i=n-1 inner loop runs for n-(i) = n-(n-1)=1

Total runtime of loop =

Total iterations=n+(n−1)+(n−2)+…+1

Constants will get cancelled out and the sum of n digits would be n(n+1)/2  
Therefore time complexity would be O(n2)