534575-2-9KE AID:258164 | 16/07/2020

The difference between unsorted optimized array and unsorted array structure are as follow:

|  |  |
| --- | --- |
| **Unsorted array** | **Unsorted optimized array** |
| Algorithm for fetch:  i= 0  while(targetkey != data[i].getkey() )  {i++}  return data[i].deepcopy() ; | Algorithm for fetch:  i= 0  while(targetkey != data[i].getkey() )  {i++}  node = data[i].deepcopy() ;  if( i != 0)  {  temp =data[i -1];  data[i -1]= data[i];  data[i] =temp ;  }  Return node; |
| * Search execute average time= n/2 * 2 memory access * O(n) | * Search execute average time= n/2 * 2 memory access * O(n) |

Conclusion:

From the above table . all the properties should be same .The search execute average time with memory access each time is same in both. This happens as nodes that are accessed more frequently are bubbled to the top, which would be advantageous for sequentially searching. The Unsorted Optimized Array structure if the nodes that are accessed at a higher frequency than others are found closer to the beginning of the sequential search. Otherwise, if it is not the case that any of the nodes in the structure are accessed at higher frequency, then, the two data structures would perform nearly identically.