

## **Running time and memory usage**

SortedListPtr SLCreate(CompareFuncT cf, DestructFuncT df):

Running time usage:  $O(1)$

Memory usage:  $O(1)$

void SLDestroy(SortedListPtr list):

Running time usage:  $O(n)$ . The code iterates from the head to tail and delete one by one

Memory usage:  $O(1)$ . It takes 2 pointer variables.

int SLInsert(SortedListPtr list, void \*newObj):

Running time usage:  $O(n)$ . The code iterates from the head to tail to find the appropriate position to insert.

Memory usage:  $O(1)$ . It takes 3 variable pointers.

int SLRemove(SortedListPtr list, void \*newObj):

Running time usage:  $O(n)$ . The code iterates from the head to tail to find the appropriate position to remove.

Memory usage:  $O(1)$ . It takes 3 variable pointers.

SortedListIteratorPtr SLCreateIterator(SortedListPtr list):

Running time usage:  $O(1)$

Memory usage:  $O(1)$

void SLDestroyIterator(SortedListIteratorPtr iter):

Running time usage:  $O(1)$

Memory usage:  $O(1)$

void \* SLGetItem( SortedListIteratorPtr iter):

Running time usage:  $O(1)$

Memory usage:  $O(1)$

void \* SLNextItem(SortedListIteratorPtr iter):

Running time usage:  $O(1)$

Memory usage:  $O(1)$