

Line	Code	Cost
1	void Radix::SortMgr(istream& i,ostream& o)	0
2	{ List L;	0
3	L.Scan(i);	0
4	L.Print(o,"Unsorted List");	0
5	int p=L.Longest()-1;	2
6	while (p>=0){	p
7	BucketSort(L,p);	$p(13n + 14b + 2)$
8	p--;	p
9	}	1
10	L.Print(o,"Sorted List");	0
11	}	0
		$T(n) = p(13n + 14b + 2) + 2p + 3$

Line	Code	Cost
1	void Radix::BucketSort(List& L,int p)	0
2	{ List B[256];	0
3	while (!L.IsEmpty()) {	n
4	Element* e=L.HeadRemove();	4n
5	if (e->Length()<p+1) {	2n
6	B[0].TailInsert(e);	4n
7	} else {	0
8	char b=e->id[p];	2n
9	B[b].TailInsert(e);	4n
10	}	0
11	}	0
12	int a=0;	1
13	while (a<256) {	b
14	L.Join(B[a]);	12b
14	a++;	b
16	}	1
17	}	0
		$T(n) = 13n + 14b + 2$

Line	Code	Cost
1	<i>Element*</i> List::HeadRemove(void)	0
2	{ <i>Element*</i> e=head;	1
3	if (head==tail) {	1
4	head=tail=0;	2
5	} else {	0
6	head=head->next;	2
7	}	0
8	return e;	0
9	}	0
		$T(n) = 4$

Line	Code	Cost
1	void List::TailInsert(<i>Element*</i> e)	0
2	{ if (head) {	0
3	tail->next=e;	2
4	} else {	0
5	head=e;	1
6	}	0
7	tail=e;	1
8	e->next=0;	2
9	}	0
		$T(n) = 4$

Line	Code	Cost
1	void List::Join(List& L)	
2	{ if (L.IsEmpty() && IsEmpty()) return;	2
3	if (L.IsEmpty() && !IsEmpty()) return;	3
4	if (!L.IsEmpty() && IsEmpty()) {	3
5	head=L.head; tail=L.tail;	2
6	cursor=L.cursor; longest=L.longest;	2
7	L.head=L.tail=L.cursor=0;	3
	L.longest=0;	1
8	}	
9	if (!L.IsEmpty() && !IsEmpty()) {	4
10	tail->next=L.head;	3
11	tail=L.tail;	1
12	L.head=L.tail=L.cursor=0;	3
	L.longest=0;	1
13	}	
14	}	
		$T(n) = 12$