

```
int main(int argc, char* argv[])
{
    LinkedList stateList;
    stateList.read("AreaCodes.dat");
    ofstream outf("StateCodes5.txt");

    for(int i = 0; i < stateList.getSize(); i++)
        outf << stateList[i];

    return 0;
}
```

```
[ssdavis@lect1]$ cat StateCodes5.txt
```

```
AB 403 780
AK 907
AL 205 251 256 334
AR 479 501 870
AZ 480 520 602 623 928
BC 250 604 778
CA 209 213 310 323 341 369 408 415 424 442 510 530 559 562 619 626 627 628 650 657 661 669 707 714 747 752 760
764 805 818 831 858 909 916 925 935 949 951
CO 303 719 720 970
CT 203 475 860 959
DC 202
DE 302
FL 850 239 305 321 352 386 407 561 689 727 754 772 786 813 836 861 863 904 941 954
GA 229 404 470 478 678 706 770 912
GU 671
HI 808
IA 319 515 563 641 712
ID 208
IL 217 224 282 309 312 331 464 618 630 708 773 815 847 872
IN 317 812 219 260 574 765
KS 316 620 785 913
KY 270 327 502 859 606
LA 225 318 337 504 985
MA 339 351 413 508 617 774 781 857 978
MB 204
MD 240 249 280 301 410 443 969
ME 207 383
MI 231 248 269 278 313 517 546 586 616 734 810 906 989 679 947
MN 218 320 507 612 651 763 952
MO 314 417 557 573 636 660 816 975
MP 670
MS 228 601 662
MT 406
NB 506
NC 252 336 704 828 910 919 980 984
ND 701
NE 402 308
NF 709
NH 603
NJ 201 356 551 609 732 848 856 862 908 973
NM 505 957
NS 902
// Edited by Sean
RI 401
SC 803 843 864
SD 605
SK 306
TN 615 731 901 931 423 865
TX 210 214 254 281 325 361 409 430 469 512 682 713 737 806 817 830 832 903 936 940 956 972 979 432 915
UT 385 435 801
VA 236 276 381 434 540 571 703 757 804
VT 802
WA 206 253 360 425 509 564
WI 262 353 414 420 608 715 920
WV 304
WY 307
[ssdavis@lect1]$
```

class StateCodeLong is derived from StateCode, and has two additional variables: short count, and short codes[40]. After storing the first area in the areaCode of the StateCode class, the StateCodeLong class stores succeeding area codes in the codes array. It has two methods: a constructor that takes a StateCode as a parameter, and a += operator that takes a StateCode as a parameter. You will note that in main() the insertion operator is overloaded for StateCodeLong too.

```
class StateCode {
    char state[3];
protected:
    short areaCode;
public:
    StateCode();
    StateCode(const StateCode &sc);
    const char* getState() const {return state;}
    istream& read(istream &is);
    short getAreaCode()const {return areaCode;}
    bool operator< (const StateCode &sc) const {return strcmp(state, sc.state) < 0;}
    bool operator== (const StateCode &sc) const {return strcmp(state, sc.state) == 0;}
}; // class StateCode

class ListNode{
    StateCodeLong data;
// edited by Sean to hide whether this is a double linked list
    ListNode *next;
    ListNode(const StateCodeLong &d, /*more editing */ ListNode *n):data(d), /* yet more
editing */ next(n){}
    friend class LinkedList;
}; // class ListNode

class LinkedList {
    ListNode *head;
    int size;
public:
    LinkedList():head(NULL), size(0){}
    int getSize()const {return size;}
    void read(const char* filename);
    const StateCodeLong& operator[] (int index)const;
}; // class LinkedList
```