

```
template <typename T>
int ArrayList<T>::seqSearch(const T& item) const
{
    int loc=0;
    bool found = false;
    while ((!found) && (loc < length)) {
        if (list[loc] == item) {
            found = true;
        }
        else {
            ++loc;
        }
    }
    if (!found) {
        loc = -1;
    }
    return loc;
}
```

```
template <typename T>
bool binarySearch(const T& item)
{
    int first = 0;
    int last = length - 1;
    int mid;
    bool found = false;
    while ((first <= last) && (!found)) {
        mid = (first + last)/2;
        if (list[mid] == item) {
            found = true;
        }
        else {
            if (list[mid] > item) {
                last = mid - 1;
            }
            else {
                first = mid + 1;
            }
        }
    }
    if (!found) {
        mid = -1;
    }
    return mid;
}
```

```
void binarySearch(const int a[], int first, int last, int item,
                  bool& found, int& loc)
{
    if (first > last) {
        found = false;
    }
    else {
        loc = (first + last)/2;
        if (item < a[loc]) {
            binarySearch(a, first, loc-1, item, found, loc);
        }
        else if (item > a[loc]) {
            binarySearch(a, loc+1, last, item, found, loc);
        }
        else {
            found = true;
        }
    }
}
```