Sorting and Searching

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Selection Sort

```
void selectionsort(int a[], int n)
{
    int i, j, minpos, temp;
        for(i = 0; i <= n-1; i++)
        {
                minpos = i;
                for(j = i+1; j <= n-1; j++)
                {
                        if(a[j] < a[minpos])
                        {
                                minpos = j;
                        }
                swap(a[i], a[minpos]);
        }
}
```

Bubble Sort

```c
void bubblesort(int a[], int n)
{
        int i, j;
        for(i = 0; i <= n-1; i++)
        {
                for(j = 0; j <= n-2-i; j++)
                {
                        if(a[j] > a[j+1])
                        {
                                swap(a[j], a[j+1]);
                        }
                }
        }
}
```

Linear Search

```
int linearsearch (int a[], int n, int key)
{
    for(i = 0; i < n; i++)
    {
        if (a[i] == key)
            return i;
    }
    return -1;
}
```

Binary Search

```
int bsearch(int a[], int low, int high, int key)
 {
        if (low > high)
          return -1;
        mid = (low + high)/2
        if (key == a[mid])
            return mid;
        else if (key < a[mid])
          return bsearch(a, low, mid-1, key);
        else
          return bsearch(a, mid+1, high, key);
 }
```