**//LINEAR or SEQUENTIAL SEARCH  
int LinearSearch (int array[], int size, int searchVal)**

**{**

**bool found;**

**int ix;**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**while ( \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ && \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_)**

**{**

**if (\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_)**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**else**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**}**

**if (\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_)**

**return \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ ;**

**else**

**return \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_;**

**}**

}

Advantages:

Disadvantages:

**//BINARY SEARCH  
int BinSearch( int list[], int length, int SearchItem)**

**{**

**int first;**

**int last;**

**int middle;**

**first = \_\_\_\_\_; // lower bound on list**

**last = \_\_\_\_\_\_\_\_\_\_\_; // upper bound on list**

**found = FALSE;**

**while (\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ && last >= first)**

**{**

**middle = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**if (item < list[middle]**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ //reset last**

**else if (item > list[middle])**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ //reset first**

**else**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ //found!**

**}**

**if (\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_)**

**return middle ;**

**else**

**return -1; //not found**

**}**

**}**

Advantages:

Disadvantages:

**Why programming is important**

Consider the following scenario:

1. Although you had a **wonderful** professor in COSC175 at Towson, you personally hated programming and decided you never wanted to do it again. You dropped your computer science major for IS, IT or even Business.
2. You graduate from Towson - Congratulations!
3. You get a job – (YAY!!!!)

With a company that does data retrieval, such as 411.com, whitepages.com, etc. ..

Whatever you have benefits, who cares!

Basically your job involves assessing information retrieval rates for users calling in requesting telephone numbers.

1. Your boss offers you a $100 bonus, if you can reduce the data retrieval rates for the week.

You know the algorithm is the Linear Search

You cannot change the software (remember you dropped your computer science major!)

You can change how the data is stored.

How can you earn the bonus?