Assignment #7

# Difference between List and Array

Array has to have a size at the time it is created. To add element to array it has to be assigned to a specific locating. The array has a fixed size and cannot be changed once initialized.

List are of dynamic size. They are automatically resized to twice the current size, when the size limit is reached.

Arrays can be multidimensional.  
Lists can only have single dimension.   
  
I would use Array if I know the size of the data that it would hold. I would use ArrayList if I don’t know the size of the data that will be held.

If I will sum all numbers from 1 to 10 and I know it won’t change then I would use Array. If I will let the user enter 10 numbers and then find the sum I will use ArrayList.

# Difference between FOR and WHILE loop

There are not significant differences between the two types of loops, except the implementation syntax.

For loops are being executed X amount of times:  
for (*initialization; condition; increment/decrement*)  
 *// statement to execute*

While loops have to have a condition that evaluates to true to even start the loop. The loop may not get executed if the condition is false:  
while (*condition*)  
 *// statement to execute  
 // evaluate condition*

While is mostly used in situations when we don’t know how many times the code will be executed.

For loop is used when we want the code to run specific amount of times.

# Describe ADT

ADT describes the properties and operations that can be performed on that type of data, but it does not implement the operations, and the properties.   
It is a frame for how a data structure can be implemented. This frame has a bunch of attributes and methods that a class has to implement.

# Store positive integers



# Simple search

