1. Research and find how the values of ArrayList are stored in the memory.

The elements of an ArrayList are stored in **a chunk of contiguous memory**. When that memory becomes full, a larger chunk of contiguous memory has to be allocated (usually twice the size) and the existing elements are copied into this new chunk. We call this chunk the capacity of the ArrayList object.

1. What are the dis-advantages of ArrayList (Collections ArrayList)

From the example above, we not only inserted the string "abc" but also the number 123 in the list. So inserting different types of data in the ArrayList is allowed. Because ArrayList will treat all data inserted into it as an object type. In this way, when we use the data in the ArrayList to deal with problems, it is likely to report a type mismatch error, which means that the ArrayList is not type safe .

Even if we ensure that we are very careful when inserting data, we have inserted the same type of data, but when using it, we also need to convert them to the corresponding original type for processing. This involves the operation of packing and unpacking , which will bring a lot of performance loss.

boxing: is to pack the data of the value type into the instance of the reference type,   
such as assigning the value 123 of type int to the object object o.

int i=123; object o=(object)i;

Unboxing: is to extract the value type from the reference data,  
such as assigning the value of the object object o to the variable i of type int

object o=123; int i=(int)o;

3.) In a tabular format write the differences between Collections and generics.

1. namespace

2. Each element is of what type

3. do you need type casting here

4. Example - ArrayList, List<T>

