1. What is data structure in java explain with an example?

* Data structure is a way to store and organize data in a computer, so that it can be used efficiently
* Let’s pickup an example from our day to day life, where organizing data in a particular structure help us, we are able to search a word quickly and efficiently in a language dictionary because the words in the dictionary are sorted, what if the words in the dictionary were not sorted ?
* It would be impractical and impossible to search for a word among millions of words, so dictionary is a organized as a sorted list of word
* Let’s pickup another example, if we have something like city map, the data like position of the landmark and road network connection, all this data is organized in the form of geometrics, we show the map data in the form of these geometrics on a two dimensional plane, so map data need to be structure so that we have scale and directions and we are effectively able to search for a land mark and get route from one place to another place

1. How should I decide which data structure to use?

* Our choice of data structure depends upon a number of factors, first of all its about what needs to be stored, a certain data structure can be best fit for a particular kind of data
* Then we may care for the cost of operations, quit open we want to minimize the cost of most frequently performed operations,
* For example let’s say we have a simple list and we are searching for an elements in the list most of the time, then we may want to store the list or collection as an array in sorted order, so we can perform something like binary search really fast
* Another factor can be memory consumption, sometimes we may want to minimize the memory usage and finally we may also choose a data structure for ease of implementation, although this may not be the best strategy, so it’s depends upon the factor

1. What is the linear and non-linear data structure in java?

* Elements are accessed in a sequential order
* Array, linked list, stack and queue, all of these are linear data structure
* Element are accessed and stored in a non-linear order
* Trees and graphs

1. How to analyze time complexity?

* All we bother about is that how our program behaves for various inputs or how the time taken by the program grows with the input to the program, so mostly we are interested in the rate of growth of time taken with respect the input
* In generally in java we follow some rules to do that

1. What is algorithm in java?

* An algorithm is a procedure or formula for solving a problem, based on conduction a sequence of specified actions.

1. What is array in java?

* An array is a container object that holds a collection of similar data type
* Arrays are used to process related groups of values

1. What single array and multiple arrays in java?

* One dimensional array contains only one row whereas two dimensional arrays contains rows and column