**Inheritance:**

Inheritance is used to inherit the properties and behavior of one class to other class using extends keyword. It is known as “is-a-relationship”. By doing this child class can use the methods of the parent class and also define and use its known methods also.

**Runtime polymorphism:**

This is known as method overriding which means it has same class name and same arguments which is used to override a method (i.e) we can define a method of our own if we don’t like the one which is in the super class.

**Difference between protected and default access modifiers:**

Protected is used when we want to secure a method but this can be accessed by the child through the protected modifier. The major advantage is we can use this if the classes are in different packages. By doing this we can restrict the access of using by other classes.

While default is used when we want to access the methods within same package.

**Static and instance variables:**

Instance Variable - A variable that is declared inside the class but outside the method is called instance variable . It is not declared as static.

Static Variable- A variable that is declared as static is called static variable. It cannot be local, It is not for any particular object but for whole class.

**Array, Arraylist, Linkedlist:**

**Arrays:**

These are fixed in length (i.e) we cannot expand the size.

It stores same type of data-homogeneous data.

It does not have methods to remove the element like arraylist.

It needs a loop to add elements to array.

**Arraylist:**

These are not fixed in size they can grow in size.

This is one dimensional whereas array is multi dimensional.

These contain methods to add,remove etc to do.

**LinkedList:**

It uses double linked list to store elements. Each node is connected to its previous and next nodes.

When we remove a node it is automatically connected to its next node.

Arraylist is mainly used for searching whereas linkedlist is often used for adding and removing elements.