Homework Week One Day Four

Research

1. Define the following terms: View, ViewGroup, View Hierarchy.

View is the basic building block of the Android User Interface, examples of this are EDIT TEXT, BUTTON, TIME PICKER and DATE PICKER.

ViewGroup is essentially an invisible container that holds views and other viewgroups. It is also the base class for layouts.

View Hierarchy at heart is having a view inside another veiw. This makes the outer layout the parent of the inner layout. In short nested layouts

2. Explain in detail how the following layouts render, a what unique items each has that must be implemented: Constraint, Linear, Coordinator, Grid and Relative?

Constraint Layout - lets us position and size widgets in a flexible way

- **Has relative positioning**
- **Has centering positioning**
- **Has Circular positioning**
- **Has Dimension constraints**
- **Has Chains**
- **Has Optimizer**
- **Has margins**
- **Has visibility behavior**

Coordinator layout: this layout facilitates how views within a layout interact with each other

Grid Layout - A layout that places its children in a rectangular grid by rows and columns

Linear Layout - is a layout that arranges views horizontally in a column or horizontally in a row

Relative - A layout where the positions can be described in relation to each other or the parent. It also keeps hierarchy flat.

3. What are Listeners?

They are method callbacks from the android framework, usually triggered by user interaction with the item in the UI.

Example is listening for when a button is clicked or when hovering over an item.

4. How does Java garbage collection work?

ART the current runtime of andriod and **Dalvik** being the previous runtime in short deal with memory. They also keep track of memory allocation, and **garbage collection** is the mechanism tasked with job of reclaiming unused memory and it

is initiated when the systems preset criteria are met. We cannot control garbage collection.

5. Explain the software development lifecycle.
In regards to mobile development, it is the stages of **inception, design, development, stabilization, deployment and Maintenance**

Inception- everyone nowadays has an application idea, in this stage, the idea is refined by asking fundamental questions like why?

Design - Design stage consists of defining the apps UX, its layout and what it would look like and How it would work.

Development - in the **development** stage building of the app begins and is usually research intensive

S**tabilization** - in the stabilization stage QA usually begins testing the application and fixing the bugs and beta tests are utilized.

Deployment - deployed in house or later.
In addition to the stages, we need to factor in considerations.
These include Multitasking, Form Factor, Device and OS Fragmentation and resources