Android nanodegree interview questions

Question 1 - What's your favorite tool or library for Android? Why is it so useful?
Ans: If i talk about android development then only tool that comes into my mind is android studio. It got all the tools and project management capabilities that makes it stand it out from eclipse and other IDE. Talking about libraries , i have used many but Butterknife, Picasso, Retrofit, android support library, GSON, JSON to POJO, Parcelabler are the one that i have used more and in almost in my every project. Butterknife allows me to avoid writing boilerplate ui code again and again, picasso manages all the image loading and caching, retrofit allows me to make every type of request, json to pojo tool is very helpful when i need to parse json to pojo and helps me make models. Based on json.

Question 2 - You want to open a map app from an app that you're building. The address, city, state, and ZIP code are provided by the user. What steps are involved in sending that data to a map app?
Ans: If we are making an application which involves opening external map application like google map then we have to define the following things
Make an intent and define all the data like address in URI and parse it.
Define the action type view which enables system to notify other potential applications that can handle the intent to open the address in map.
In the last start intent using startActvity() for startForResult() both opens the intent with defined type.

Question 2 - Implement a method to perform basic string compression using the counts of repeated characters. For example, the string aabcccccaaa would become a2b1c5a3. If the "compressed" string would not become smaller than the original string, your method should return the original string. The method signature is: "public static String compress(String input)" You must write all code in proper Java, and please include import statements for any libraries you use.
Ans : code

```
import java.util.*;
import java.lang.*;
import java.io.*;

public static String compress(String input){

   char[] newChar = input.toCharArray();

   String result = "";

   char temp  = newChar[0];
   int count = 0;

   for(int i = 0; i<newChar.length; i++){

           if(newChar[i]==temp){
```

```
                count  = ++count;

                if (i+1==newChar.length) {

                    result = result + temp + String.valueOf(count);

                    return result;

                }

            }else{

                result = result + temp + String.valueOf(count);
                temp = newChar[i];
                count = 1;

            }

        }

    return result;
}
```

Question 4 - List and explain the differences between four different options you have for saving data while making an Android app. Pick one, and explain (without code) how you would implement it.

Ans : The storage options we have

Sqlite which is a local databse for mobile devices. We can store data in relational form and can perform operations similar to mysql.

Shared Preferences - In shared preferences we store data in key value pair in xml file in app's data location.

Local text file : if we dont want to store data in regular table and xml then we can store it into some text file in device's folder which is accessible easily.

Network : if our app requires data to be updated regularly then we can use server to store our data through some restful request. Which is different from xml and local text file, on server we can store data in form of tables or json tree.

Sqlite is best suited for all types of requirements and can be easily integrated with content provider to share data with other applications also if required like phone and contacts application. To store data in sqlite we create extend SqliteOpenHelper which has few unimplemented methods which needs to be implemented and create the logic for database creation and updation.

Question 5 - What are your thoughts about Fragments? Do you like or hate them? Why?

Ans : Since we can not add or remove activity dynamically so we have fragments which can be created and destroyed dynamically. They are modular part of activity and behaves very much like activity and follows the lifecycle the of parent activity in which it gets created. Yes i like them because viewpager and navigation bar layout would be more difficult or impossible without them.

But managing the fragments life cycle is bit difficult if there are plenty of them. Overall i recommend using fragments and avoid activity creation as much as possible .

Question 6 - If you were to start your Android position today, what would be your goals a year from now?

Ans: My goals from now would be learning new technologies which are coming after every android release , implement them and include them in my ongoing projects. I want to see myself in good position as android developer in your organisation where i can take decisions to make android products and services of the company better by learning from previous experiences of projects. I will be trying to make projects which implements the industry standards like material design and MVP approaches.