adapter and models

first create a folder models on package folder to create models right click
in package and click on package for create a folder. inside folder create a
modal inside modal create a constructor,Geter, setter etc

```
package com.example.firstapp.Models;

public class BookModals {
    int Bookimage;
    String Bookname;


    public BookModals(int bookimage, String bookname) {
        Bookimage = bookimage;
        Bookname = bookname;
```

fetch data using firebase and show data on recyclerview
show data from firebase database

```
package com.example.notesapp;

import androidx.annotation.NonNull;
import androidx.appcompat.app.AppCompatActivity;
import androidx.recyclerview.widget.GridLayoutManager;
import androidx.recyclerview.widget.LinearLayoutManager;

import android.os.Bundle;
import android.widget.ArrayAdapter;
import android.widget.Toast;

import com.example.notesapp.Adapters.BookAdapters;
import com.example.notesapp.Modals.BookModals;
import com.example.notesapp.databinding.ActivityMainBinding;
import com.google.firebase.database.DataSnapshot;
import com.google.firebase.database.DatabaseError;
import com.google.firebase.database.DatabaseReference;
import com.google.firebase.database.FirebaseDatabase;
import com.google.firebase.database.ValueEventListener;

Inside adapter
package com.example.notesapp.Adapters;

import android.content.Context;
import android.content.Intent;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.widget.ImageView;
import android.widget.TextView;



import androidx.annotation.NonNull;
import androidx.recyclerview.widget.RecyclerView;

import com.example.notesapp.BookDetails;
import com.example.notesapp.Modals.BookModals;
```

```java
import com.example.notesapp.R;
import com.squareup.picasso.Picasso;

import java.util.ArrayList;

public class BookAdapters extends
RecyclerView.Adapter<BookAdapters.ViewHolder>{
    ArrayList<BookModals>list;
    Context context;

    public BookAdapters(ArrayList<BookModals> list, Context context) {
        this.list = list;
        this.context = context;
    }



    @NonNull
    @Override
    public ViewHolder onCreateViewHolder(@NonNull ViewGroup parent, int
viewType) {
        View view =
LayoutInflater.from(context).inflate(R.layout.sample_book,parent,false);
        return new ViewHolder(view);
    }

    @Override
    public void onBindViewHolder(@NonNull ViewHolder holder, int
position) {
        final BookModals modals = list.get(position);
        //holder.Bookimage.setImageResource(modals.getBookimage());
        Picasso.get()
                .load(modals.getBookimage())
                .into(holder.Bookimage);

        holder.Booktext.setText(modals.getBookText());
        holder.itemView.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                Intent intent = new Intent(context, BookDetails.class);
                intent.putExtra("url",modals.getUrl());
                context.startActivity(intent);
            }
        });
    }

    @Override
    public int getItemCount() {
        return list.size();
    }

    public class ViewHolder extends RecyclerView.ViewHolder{
      ImageView Bookimage;
      TextView Booktext;
        public ViewHolder(@NonNull View itemView) {
            super(itemView);
            Bookimage = itemView.findViewById(R.id.imageView3);
            Booktext = itemView.findViewById(R.id.textView3);
```

```java
        }
    }
}


import java.util.ArrayList;

public class MainActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        ActivityMainBinding binding =
ActivityMainBinding.inflate(getLayoutInflater());
        setContentView(binding.getRoot());


        FirebaseDatabase database = FirebaseDatabase.getInstance();
        DatabaseReference myRef = database.getReference().child("books");

        DatabaseReference myref = database.getReference().child("test");
        myref.setValue("hello world");

        myref.addValueEventListener(new ValueEventListener() {
            @Override
            public void onDataChange(@NonNull DataSnapshot snapshot) {
                String value = snapshot.getValue(String.class);
                Toast.makeText(MainActivity.this, ""+value,
Toast.LENGTH_SHORT).show();
            }

            @Override
            public void onCancelled(@NonNull DatabaseError error) {

            }
        });


        ArrayList<BookModals> list = new ArrayList<>();
//        list.add(new BookModals("hello","Buy cap for free","hello"));


        BookAdapters adapter = new BookAdapters(list,this);
        binding.recyclear.setAdapter(adapter);

//        LinearLayoutManager linearLayoutManager = new
LinearLayoutManager(this,LinearLayoutManager.VERTICAL,false);
//        binding.recyclear.setLayoutManager(linearLayoutManager);

        GridLayoutManager gridLayoutManager = new
GridLayoutManager(this,3);
        binding.recyclear.setLayoutManager(gridLayoutManager);

        myRef.addValueEventListener(new ValueEventListener() {
            @Override
            public void onDataChange(@NonNull DataSnapshot snapshot) {
                for(DataSnapshot snapshot1:snapshot.getChildren()){
```

```java
                    BookModals modals =
snapshot1.getValue(BookModals.class);
                    list.add(modals);
                }
                adapter.notifyDataSetChanged();
            }

            @Override
            public void onCancelled(@NonNull DatabaseError error) {

            }
        });

    }
}
    }

    public int getBookimage() {
        return Bookimage;
    }

    public void setBookimage(int image) {
        Bookimage = image;
    }

    public String getBookname() {
        return Bookname;
    }

    public void setBookname(String bookname) {
        Bookname = bookname;
    }
}
```

add recyclerview in mainactive
create a new layout resource file and make a design.

after complete this step create a Adapters folder and create adapter and
write code

```java
package com.example.firstapp.Adapters;

import android.content.Context;
import android.media.Image;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.widget.ImageView;
import android.widget.TextView;

import androidx.annotation.NonNull;
import androidx.recyclerview.widget.RecyclerView;

import com.example.firstapp.Models.BookModals;
import com.example.firstapp.R;

import java.util.ArrayList;
```

```java
public class BookAdapters extends
RecyclerView.Adapter<BookAdapters.ViewHolder>{
    ArrayList<BookModals>list;
    Context context;

    public BookAdapters(ArrayList<BookModals> list, Context context) {
        this.list = list;
        this.context = context;
    }

    @NonNull
    @Override
    public ViewHolder onCreateViewHolder(@NonNull ViewGroup parent, int
viewType) {
        View view =
LayoutInflater.from(context).inflate(R.layout.sample_book,parent,false);
        return new ViewHolder(view);
    }

    @Override
    public void onBindViewHolder(@NonNull ViewHolder holder, int
position) {
        final BookModals model = list.get(position);
        holder.bookimage.setImageResource(model.getBookimage());
        holder.booktext.setText(model.getBookname());
    }

    @Override
    public int getItemCount() {
        return list.size();
    }

    public class ViewHolder extends RecyclerView.ViewHolder{
        TextView booktext;
        ImageView bookimage;
        public ViewHolder(@NonNull View itemView) {
            super(itemView);

            booktext=itemView.findViewById(R.id.textView3);
            bookimage=itemView.findViewById(R.id.image);

        }
    }

}
```

Go to mainactivity and put this code
```java
  ArrayList<BookModals> list = new ArrayList<>();
        list.add(new BookModals(R.drawable.food1,"this is Nepali Book"));
        list.add(new BookModals(R.drawable.food2,"this is Nepali Book"));
        list.add(new BookModals(R.drawable.food3,"this is Nepali Book"));
        list.add(new BookModals(R.drawable.food4,"this is Nepali Book"));
        list.add(new BookModals(R.drawable.food,"this is Nepali Book"));


        BookAdapters adapters = new BookAdapters(list,this);
        binding.recyclerView.setAdapter(adapters);
```

```java
//         Linear layout
//         LinearLayoutManager linearLayoutManager = new
LinearLayoutManager(this);
//         binding.recyclerView.setLayoutManager(linearLayoutManager);

        GridLayoutManager gridLayoutManager = new
GridLayoutManager(this,2);
        binding.recyclerView.setLayoutManager(gridLayoutManager);
```

three are three layout to show card
```java
//         Linear layout
//         LinearLayoutManager linearLayoutManager = new
LinearLayoutManager(this);
//         binding.recyclerView.setLayoutManager(linearLayoutManager);

//         GridLayoutManager gridLayoutManager = new
GridLayoutManager(this,3);
//         binding.recyclerView.setLayoutManager(gridLayoutManager);

        StaggeredGridLayoutManager staggeredGridLayoutManager = new
StaggeredGridLayoutManager(2,StaggeredGridLayoutManager.VERTICAL);

binding.recyclerView.setLayoutManager(staggeredGridLayoutManager);
```

linear layout in horizonal form
```java
        LinearLayoutManager linearLayoutManager = new
LinearLayoutManager(this, LinearLayoutManager.HORIZONTAL,false);
        binding.recyclerView.setLayoutManager(linearLayoutManager);
```

Enable and disable button toggle button

```java
        binding.title.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
//                 binding.subscribe.setEnabled(true);
                if(binding.subscribe.isEnabled()){
                    binding.title.setText("Android Developer");
                    binding.subscribe.setEnabled(false);
                }else{
                    binding.title.setText("Technical krish");
                    binding.subscribe.setEnabled(true);
                }
                Toast.makeText(MainActivity.this, "Subscribe Now",
Toast.LENGTH_SHORT).show();
            }
        });
```

set image after button click
```java
binding.image.setBackgroundResource(R.drawable.ic_launcher_background);
binding.image.setImageDrawable(getResources().getDrawable(R.drawable.ic_l
auncher_background)
```