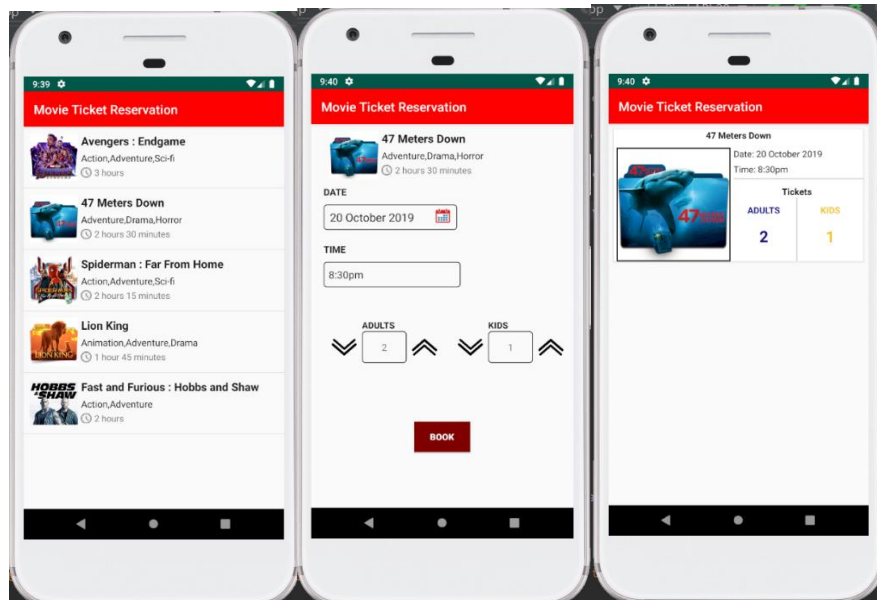# COS30017 – Software Development for Mobile Devices

Formative Assignment 3

Task 1

Screenshots

Java Code for Main Activity

```
package com.example.movieticketreservation;

import androidx.annotation.Nullable;
import androidx.appcompat.app.AppCompatActivity;
import androidx.cardview.widget.CardView;
import androidx.recyclerview.widget.DividerItemDecoration;
import androidx.recyclerview.widget.LinearLayoutManager;
import androidx.recyclerview.widget.RecyclerView;

import android.content.Intent;
import android.media.Image;
import android.os.Bundle;
import android.util.Log;
import android.view.View;
import android.widget.ImageView;
import android.widget.TextView;

import java.text.SimpleDateFormat;
import java.util.ArrayList;

public class MainActivity extends AppCompatActivity {
    private RecyclerView recyclerView;
    private ArrayList<Movie> movieList;
    private RecyclerViewAdapter adapter;


    //summary
    private CardView cardView;
    private TextView ticket_adult_num,ticket_kid_num,title,date,time;
    private ImageView imageView;
```

```java
    private Movie movie;
    private Reservation reservation;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        movieList=Movie.createMovieList(this);
        initRecycler();
        initCardView();
    }

    private void initRecycler(){
        recyclerView=findViewById(R.id.recyclerView);
        recyclerView.setLayoutManager(new LinearLayoutManager(this));
        DividerItemDecoration divide=new
DividerItemDecoration(this,DividerItemDecoration.VERTICAL);
        recyclerView.addItemDecoration(divide);
        adapter=new RecyclerViewAdapter(movieList);
        recyclerView.setAdapter(adapter);
    }
    private void initCardView(){
        cardView=findViewById(R.id.cardView);
        ticket_adult_num=findViewById(R.id.textView_adult_tickets_num);
        ticket_kid_num=findViewById(R.id.textView_child_tickets_num);
        title=findViewById(R.id.title);
        date=findViewById(R.id.textView_date);
        time=findViewById(R.id.textView_time);
        imageView=findViewById(R.id.imageView);
    }

    @Override
    protected void onActivityResult(int requestCode, int resultCode, @Nullable Intent data) {
        super.onActivityResult(requestCode, resultCode, data);
        if(requestCode==999 && resultCode==RESULT_OK){
            cardView.setVisibility(View.VISIBLE);
            recyclerView.setVisibility(View.GONE);
            //movie=data.getParcelableExtra("reservation");
            reservation=data.getParcelableExtra("reservation");
            int
resID=getResources().getIdentifier(reservation.getImageName(),"drawable",getPackageName());
            imageView.setImageResource(resID);
            title.setText(reservation.getTitle());
            date.setText("Date: "+reservation.getSelected_date());
            time.setText("Time: "+reservation.getSelected_time());
            ticket_adult_num.setText(reservation.getAdults());
            ticket_kid_num.setText(reservation.getChild());
        }
    }
}
```

Java Code for SecondActivity

```java
package com.example.movieticketreservation;

import androidx.appcompat.app.AppCompatActivity;
import androidx.recyclerview.widget.DividerItemDecoration;
import androidx.recyclerview.widget.LinearLayoutManager;
import androidx.recyclerview.widget.RecyclerView;
```

```java
import android.app.DatePickerDialog;
import android.content.Intent;
import android.database.DatabaseErrorHandler;
import android.os.Bundle;
import android.util.Log;
import android.view.View;
import android.widget.AdapterView;
import android.widget.ArrayAdapter;
import android.widget.Button;
import android.widget.DatePicker;
import android.widget.EditText;
import android.widget.ImageView;
import android.widget.Spinner;
import android.widget.TextView;
import android.widget.Toast;

import java.text.DateFormat;
import java.text.ParseException;
import java.text.SimpleDateFormat;
import java.util.ArrayList;
import java.util.Calendar;
import java.util.Date;

public class SecondActivity extends AppCompatActivity implements
DatePickerDialog.OnDateSetListener {
    private RecyclerView recyclerView;
    private ArrayList<Movie> movieList; //add selected Movie into this ArrayList after extraction from
bundle
    private RecyclerViewAdapter adapter;
    private Movie movie;

    //calender
    private TextView textView_calendar;
    private Date currentDate;
    private Date selectedDate;//to be packaged

    //spinner
    private Spinner spinner;
    private ArrayAdapter<String> timeAdapter;
    private String selectedTime="";//to be packaged

    //tickets
    private TextView adult,kid;
    private ImageView adult_up,adult_down,kid_up,kid_down;
    private int ticket_adult=0;//to be packaged
    private int ticket_kid=0;//to be packaged

    //book
    private Button book;

    //reservation
    Reservation reservation; //to be packaged

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_second);
        movieList=new ArrayList<>();
        if(getIntent().hasExtra("selected_movie")){
```

```java
            movie=getIntent().getParcelableExtra("selected_movie");
            movieList.add(movie);
        }
        reservation=new Reservation(movie);
        initRecycler();
        initCalendar();
        initSpinner();
        initButtons();

    }
    private int calcDays(){
        long curDate=currentDate.getTime();
        long selDate=selectedDate.getTime();
        int result=(int)((selDate-curDate)/(24*60*60*1000))+1;
        return result;
    }
    private void initButtons(){
        adult=findViewById(R.id.textView_numAdult);
        kid=findViewById(R.id.textView_numKid);
        adult.setText(String.valueOf(ticket_adult));
        kid.setText(String.valueOf(ticket_kid));

        adult_up=findViewById(R.id.imageView_adult_up);
        adult_down=findViewById(R.id.imageView_adult_down);
        adult_up.setOnClickListener(new View.OnClickListener(){
            @Override
            public void onClick(View v) {
                ticket_adult++;
                adult.setText(String.valueOf(ticket_adult));
            }
        });
        adult_down.setOnClickListener(new View.OnClickListener(){
            @Override
            public void onClick(View v) {
                if(ticket_adult<=0){
                    ticket_adult=0;
                    adult.setText(String.valueOf(ticket_adult));
                }else{
                    ticket_adult--;
                    adult.setText(String.valueOf(ticket_adult));
                }
            }
        });
        kid_up=findViewById(R.id.imageView_kid_up);
        kid_down=findViewById(R.id.imageView_kid_down);
        kid_up.setOnClickListener(new View.OnClickListener(){
            @Override
            public void onClick(View v) {
                ticket_kid++;
                kid.setText(String.valueOf(ticket_kid));
            }
        });
        kid_down.setOnClickListener(new View.OnClickListener(){
            @Override
            public void onClick(View v) {
                if(ticket_kid<=0){
                    ticket_kid=0;
                    kid.setText(String.valueOf(ticket_kid));
                }else {
                    ticket_kid--;
```

```java
                    kid.setText(String.valueOf(ticket_kid));
                }
            }
        });

        book=findViewById(R.id.button_book);
        book.setOnClickListener(new View.OnClickListener(){
            @Override
            public void onClick(View v) {
                int days=calcDays();
                if(days>=4 || days<=0){
                    Toast.makeText(getApplicationContext(),
                            "Invalid selected data, please reselect"
                            ,Toast.LENGTH_SHORT).show();
                }else if(ticket_kid==0 && ticket_adult==0){
                    Toast.makeText(getApplicationContext(),"You must purchase a ticket to book"
                            ,Toast.LENGTH_SHORT).show();
                }
                else {
                    SimpleDateFormat sdf = new SimpleDateFormat("d MMMM yyyy");
                    String temp = sdf.format(selectedDate);
                    reservation.setSelected_date(temp);
                    reservation.setSelected_time(selectedTime);
                    reservation.setAdults(String.valueOf(ticket_adult));
                    reservation.setChild(String.valueOf(ticket_kid));
                    Intent intent = new Intent(getApplicationContext(), MainActivity.class);
                    intent.putExtra("reservation", reservation);
                    setResult(RESULT_OK, intent);
                    finish();
                }
            }
        });
    }
    private void initSpinner(){
        spinner=findViewById(R.id.spinner);
        String[] time=movieList.get(0).getShowtime();
        timeAdapter=new ArrayAdapter<String>(this,android.R.layout.simple_spinner_item
                ,time);
        timeAdapter.setDropDownViewResource(android.R.layout.simple_spinner_dropdown_item);
        spinner.setAdapter(timeAdapter);
        spinner.setOnItemSelectedListener(new AdapterView.OnItemSelectedListener() {
            @Override
            public void onItemSelected(AdapterView<?> parent, View view, int position, long id) {
                selectedTime = spinner.getSelectedItem().toString();
            }

            @Override
            public void onNothingSelected(AdapterView<?> parent) {
                selectedTime = movieList.get(0).getShowtime()[0];
            }
        });
    }
    private void initCalendar() {
        Calendar calendar=Calendar.getInstance();
        currentDate=calendar.getTime();
        textView_calendar=findViewById(R.id.editText_date);

        textView_calendar.setOnClickListener(new View.OnClickListener(){
            @Override
            public void onClick(View v) {
```

```java
            showDatePickerDialog();
        }
    });

}
private void showDatePickerDialog(){
    DatePickerDialog datePickerDialog=new DatePickerDialog(this,this,
            Calendar.getInstance().get(Calendar.YEAR),
            Calendar.getInstance().get(Calendar.MONTH),
            Calendar.getInstance().get(Calendar.DAY_OF_MONTH)
    );
    datePickerDialog.show();
}

@Override
public void onDateSet(DatePicker view, int year, int month, int dayOfMonth) {
    String temp=dayOfMonth+" "+(month+1)+" "+year;
    SimpleDateFormat sdf=new SimpleDateFormat("d M yyyy");
    try {
        selectedDate=sdf.parse(temp);
        sdf=new SimpleDateFormat("d MMMM yyyy");
        sdf.format(selectedDate);
        textView_calendar.setText(sdf.format(selectedDate));
    } catch (ParseException e) {
        e.printStackTrace();
    }
}

private void initRecycler() {
    recyclerView=findViewById(R.id.second_recycler_view);
    recyclerView.setLayoutManager(new LinearLayoutManager(this));
    adapter=new RecyclerViewAdapter(movieList);
    recyclerView.setAdapter(adapter);
}




}
```

Java Code for RecyclerViewAdapter

```java
package com.example.movieticketreservation;

import android.app.Activity;
import android.content.Context;
import android.content.Intent;
import android.util.Log;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.widget.ImageView;
import android.widget.TextView;
import android.widget.Toast;

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

import java.util.ArrayList;

public class RecyclerViewAdapter extends
```

```java
RecyclerView.Adapter<RecyclerViewAdapter.ViewHolder>{
    private ArrayList<Movie> movieList;

    public RecyclerViewAdapter(ArrayList<Movie> movieList) {
        this.movieList = movieList;
    }

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

    @Override
    public void onBindViewHolder(@NonNull ViewHolder holder, int position) {
        Movie movie=movieList.get(position);
        int resID=holder.imageView.getResources().getIdentifier(movie.getImageName(),
            "drawable",holder.imageView.getContext().getPackageName());
        holder.imageView.setImageResource(resID);
        holder.title.setText(movie.getTitle());
        holder.genre.setText(movie.getGenre());
        holder.duration.setText(movie.getDuration());
    }

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

    public class ViewHolder extends RecyclerView.ViewHolder implements View.OnClickListener{
        public ImageView imageView;
        public TextView title,genre,duration;
        public ViewHolder(@NonNull View itemView) {
            super(itemView);
            imageView=itemView.findViewById(R.id.imageView);
            title=itemView.findViewById(R.id.textView_title);
            genre=itemView.findViewById(R.id.textView_genre);
            duration=itemView.findViewById(R.id.textView_duration);
            itemView.setOnClickListener(this);
        }

        @Override
        public void onClick(View v) {
            int pos=getAdapterPosition();
            Intent intent=new Intent(v.getContext(),SecondActivity.class);
            intent.putExtra("selected_movie",movieList.get(pos));
            ((Activity)v.getContext()).startActivityForResult(intent,999);
        }
    }
}
```

```java
package com.example.movieticketreservation;

import android.content.Context;
import android.os.Parcel;
import android.os.Parcelable;

import java.util.ArrayList;

public class Movie implements Parcelable {
    private String title;
    private String genre;
    private String[] showtime;
    private String duration;
    private String imageName;




    public Movie(String title, String genre, String[] showtime, String duration,String imageName) {
        this.title = title;
        this.genre = genre;
        this.showtime = showtime;
        this.duration = duration;
        this.imageName=imageName;

    }

    protected Movie(Parcel in) {
        title = in.readString();
        genre = in.readString();
        showtime = in.createStringArray();
        duration = in.readString();
        imageName=in.readString();

    }

    public static final Creator<Movie> CREATOR = new Creator<Movie>() {
        @Override
        public Movie createFromParcel(Parcel in) {
            return new Movie(in);
        }

        @Override
        public Movie[] newArray(int size) {
            return new Movie[size];
        }
    };

    public String getDuration() {
        return duration;
    }

    public void setDuration(String duration) {
        this.duration = duration;
    }

    public String getTitle() {
        return title;
```

```java
    }

    public void setTitle(String title) {
        this.title = title;
    }

    public String getGenre() {
        return genre;
    }

    public void setGenre(String genre) {
        this.genre = genre;
    }

    public String[] getShowtime() {
        return showtime;
    }

    public void setShowtime(String[] showtime) {
        this.showtime = showtime;
    }
    public String getImageName() {
        return imageName;
    }

    public void setImageName(String imageName) {
        this.imageName = imageName;
    }


    public static ArrayList<Movie> createMovieList(Context context){
        ArrayList<Movie> movieList=new ArrayList<>();

        movieList.add(new Movie("Avengers : Endgame","Action,Adventure,Sci-
fi",context.getResources().getStringArray(R.array.avengers),"3 hours","avengers"));
        movieList.add(new Movie("47 Meters
Down","Adventure,Drama,Horror",context.getResources().getStringArray(R.array.meters),"2 hours 30
minutes","meters"));
        movieList.add(new Movie("Spiderman : Far From Home","Action,Adventure,Sci-
fi",context.getResources().getStringArray(R.array.spiderman),"2 hours 15 minutes","spiderman"));
        movieList.add(new Movie("Lion
King","Animation,Adventure,Drama",context.getResources().getStringArray(R.array.lionking),"1 hour
45 minutes","lion_king"));
        movieList.add(new Movie("Fast and Furious : Hobbs and
Shaw","Action,Adventure",context.getResources().getStringArray(R.array.hobbs),"2 hours","hobbs"));
        return movieList;
    }

    @Override
    public int describeContents() {
        return 0;
    }

    @Override
    public void writeToParcel(Parcel dest, int flags) {
        dest.writeString(title);
        dest.writeString(genre);
        dest.writeStringArray(showtime);
        dest.writeString(duration);
        dest.writeString(imageName);
```

```
        }
}

Java Code for Reservation Class
package com.example.movieticketreservation;

import android.os.Parcel;
import android.os.Parcelable;

public class Reservation implements Parcelable {
    private String title;
    private String imageName;
    private String selected_time;
    private String selected_date;
    private String adults;
    private String child;

    protected Reservation(Parcel in) {
        title = in.readString();
        imageName = in.readString();
        selected_time = in.readString();
        selected_date = in.readString();
        adults = in.readString();
        child = in.readString();
    }

    public static final Creator<Reservation> CREATOR = new Creator<Reservation>() {
        @Override
        public Reservation createFromParcel(Parcel in) {
            return new Reservation(in);
        }

        @Override
        public Reservation[] newArray(int size) {
            return new Reservation[size];
        }
    };

    public String getTitle() {
        return title;
    }

    public void setTitle(String title) {
        this.title = title;
    }

    public String getImageName() {
        return imageName;
    }

    public void setImageName(String imageName) {
        this.imageName = imageName;
    }

    public String getSelected_time() {
        return selected_time;
    }

    public void setSelected_time(String selected_time) {
        this.selected_time = selected_time;
```

```java
    }

    public String getSelected_date() {
        return selected_date;
    }

    public void setSelected_date(String selected_date) {
        this.selected_date = selected_date;
    }

    public String getAdults() {
        return adults;
    }

    public void setAdults(String adults) {
        this.adults = adults;
    }

    public String getChild() {
        return child;
    }

    public void setChild(String child) {
        this.child = child;
    }


    public Reservation(Movie movie) {
        this.title = movie.getTitle();
        this.imageName = movie.getImageName();
        this.selected_time = "";
        this.selected_date = "";
        this.adults = "";
        this.child = "";
    }

    @Override
    public int describeContents() {
        return 0;
    }

    @Override
    public void writeToParcel(Parcel dest, int flags) {
        dest.writeString(title);
        dest.writeString(imageName);
        dest.writeString(selected_time);
        dest.writeString(selected_date);
        dest.writeString(adults);
        dest.writeString(child);
    }
}
```

Task 2

<u>XML for Main</u>

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
    android:id="@+id/layout"
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:orientation="vertical"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity"/>
```

<u>XML for Fragment One</u>

```xml
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent">

    <ImageView
        android:id="@+id/title"
        android:layout_width="358dp"
        android:layout_height="71dp"
        android:contentDescription="@string/titleImage"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:srcCompat="@drawable/title" />

    <ImageView
        android:id="@+id/burger_main"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:adjustViewBounds="true"
        android:contentDescription="@string/burgerMainImage"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@id/title"
        app:srcCompat="@drawable/burger_main" />

    <ImageView
        android:id="@+id/ingredient"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:contentDescription="@string/ingredientImage"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@id/burger_main"
        app:srcCompat="@drawable/ingredient" />

    <androidx.constraintlayout.widget.Guideline
        android:id="@+id/guideline"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
```

```xml
        android:orientation="vertical"
        app:layout_constraintGuide_begin="20dp" />

    <ImageView
        android:id="@+id/meat"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:contentDescription="@string/meatImage"
        app:layout_constraintStart_toEndOf="@id/guideline"
        app:layout_constraintTop_toBottomOf="@id/ingredient"
        app:srcCompat="@drawable/meat" />

    <TextView
        android:id="@+id/protein"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="5dp"
        android:layout_marginTop="8dp"
        android:text="@string/protein"
        android:textColor="@color/font"
        android:textSize="18sp"
        app:layout_constraintStart_toEndOf="@id/meat"
        app:layout_constraintTop_toTopOf="@id/meat" />

    <LinearLayout
        android:id="@+id/hori1"
        android:layout_width="260dp"
        android:layout_height="1dp"
        android:layout_marginStart="3dp"
        android:layout_marginTop="13dp"
        android:background="@color/primary"
        android:orientation="horizontal"
        app:layout_constraintStart_toEndOf="@id/protein"
        app:layout_constraintTop_toTopOf="@id/protein" />

    <RadioGroup
        android:id="@+id/radioGroup"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:orientation="horizontal"
        app:layout_constraintStart_toEndOf="@id/guideline"
        app:layout_constraintTop_toBottomOf="@id/meat">

        <RadioButton
            android:id="@+id/beef"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_marginStart="10dp"
            android:layout_marginEnd="10dp"
            android:layout_weight="1"
            android:text="@string/beef" />

        <RadioButton
            android:id="@+id/chicken"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_marginEnd="10dp"
            android:layout_weight="1"
            android:text="@string/chicken" />
```

```xml
    <RadioButton
        android:id="@+id/fish"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginEnd="10dp"
        android:layout_weight="1"
        android:text="@string/fish" />

    <RadioButton
        android:id="@+id/egg"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginEnd="10dp"
        android:layout_weight="1"
        android:text="@string/egg" />
</RadioGroup>

<ImageView
    android:id="@+id/salad"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginTop="5dp"
    android:contentDescription="@string/saladImage"
    app:layout_constraintStart_toEndOf="@id/guideline"
    app:layout_constraintTop_toBottomOf="@id/radioGroup"
    app:srcCompat="@drawable/salad" />

<TextView
    android:id="@+id/fiber"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="5dp"
    android:layout_marginTop="8dp"
    android:text="@string/fiber"
    android:textColor="@color/font"
    android:textSize="18sp"
    app:layout_constraintStart_toEndOf="@id/salad"
    app:layout_constraintTop_toTopOf="@id/salad" />

<LinearLayout
    android:id="@+id/hori2"
    android:layout_width="277dp"
    android:layout_height="1dp"
    android:layout_marginStart="3dp"
    android:layout_marginTop="13dp"
    android:background="@color/primary"
    android:orientation="horizontal"
    app:layout_constraintStart_toEndOf="@id/fiber"
    app:layout_constraintTop_toTopOf="@id/fiber" />

<CheckBox
    android:id="@+id/lettuce"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="10dp"
    android:text="@string/lettuce"
    app:layout_constraintStart_toEndOf="@id/guideline"
    app:layout_constraintTop_toBottomOf="@id/salad" />

<CheckBox
```

```xml
        android:id="@+id/tomato"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="20dp"
        android:text="@string/tomato"
        app:layout_constraintStart_toEndOf="@id/lettuce"
        app:layout_constraintTop_toBottomOf="@id/salad" />

    <CheckBox
        android:id="@+id/pickle"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="20dp"
        android:text="@string/pickle"
        app:layout_constraintStart_toEndOf="@id/tomato"
        app:layout_constraintTop_toBottomOf="@id/salad" />

    <CheckBox
        android:id="@+id/onion"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="20dp"
        android:text="@string/onion"
        app:layout_constraintStart_toEndOf="@id/pickle"
        app:layout_constraintTop_toBottomOf="@id/salad" />

    <LinearLayout
        android:id="@+id/dot1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:background="@drawable/dot"
        android:orientation="horizontal"
        app:layout_constraintBottom_toBottomOf="@id/guideline2"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        android:layout_marginEnd="10dp"/>

    <LinearLayout
        android:id="@+id/dot2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:orientation="horizontal"
        android:background="@drawable/dot_mute"
        app:layout_constraintBottom_toBottomOf="@id/guideline2"
        app:layout_constraintStart_toEndOf="@id/dot1"
        android:layout_marginStart="10dp"
        />

    <androidx.constraintlayout.widget.Guideline
        android:id="@+id/guideline2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:orientation="horizontal"
        app:layout_constraintGuide_begin="581dp" />


</androidx.constraintlayout.widget.ConstraintLayout>
```

XML for Fragment Two

```xml
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".FragmentTwo">


    <ImageView
        android:id="@+id/burger2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="15dp"
        android:adjustViewBounds="true"
        android:contentDescription="@string/burger2Image"
        android:src="@drawable/burger2"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

    <ImageView
        android:id="@+id/juice"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:contentDescription="@string/juiceImage"
        android:src="@drawable/juice"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@id/burger2" />

    <androidx.constraintlayout.widget.Guideline
        android:id="@+id/guideline3"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:orientation="vertical"
        app:layout_constraintGuide_end="391dp" />

    <ImageView
        android:id="@+id/cheese2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:contentDescription="@string/cheese2Image"
        android:src="@drawable/cheese2"
        app:layout_constraintStart_toEndOf="@id/guideline3"
        app:layout_constraintTop_toBottomOf="@id/juice" />

    <TextView
        android:id="@+id/yummyfat"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="5dp"
        android:layout_marginTop="8dp"
        android:text="@string/yummyfat"
        android:textColor="@color/font"
        android:textSize="18sp"
        app:layout_constraintStart_toEndOf="@id/cheese2"
        app:layout_constraintTop_toTopOf="@id/cheese2" />
```

```xml
<LinearLayout
    android:id="@+id/hori3"
    android:layout_width="230dp"
    android:layout_height="1dp"
    android:layout_marginStart="3dp"
    android:layout_marginTop="13dp"
    android:background="@color/primary"
    android:orientation="horizontal"
    app:layout_constraintStart_toEndOf="@id/yummyfat"
    app:layout_constraintTop_toTopOf="@id/yummyfat" />

<CheckBox
    android:id="@+id/cheese"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="10dp"
    android:text="@string/cheese"
    app:layout_constraintStart_toEndOf="@id/guideline3"
    app:layout_constraintTop_toBottomOf="@id/cheese2" />

<CheckBox
    android:id="@+id/mayo"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="20dp"
    android:text="@string/mayo"
    app:layout_constraintStart_toEndOf="@id/cheese"
    app:layout_constraintTop_toBottomOf="@id/cheese2" />

<CheckBox
    android:id="@+id/mustard"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="20dp"
    android:text="@string/mustard"
    app:layout_constraintStart_toEndOf="@id/mayo"
    app:layout_constraintTop_toBottomOf="@id/cheese2" />

<LinearLayout
    android:id="@+id/hori4"
    android:layout_width="402dp"
    android:layout_height="1dp"
    android:layout_marginStart="3dp"
    android:layout_marginTop="13dp"
    android:background="@color/primary"
    android:orientation="horizontal"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@id/cheese" />

<TextView
    android:id="@+id/size"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginTop="10dp"
    android:text="@string/size"
    android:textColor="@color/font"
    android:textSize="18sp"
    android:textStyle="bold"
```

```xml
        app:layout_constraintStart_toEndOf="@id/guideline3"
        app:layout_constraintTop_toBottomOf="@id/hori4" />

    <androidx.appcompat.widget.AppCompatSpinner
        android:id="@+id/spinner"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="10dp"
        app:layout_constraintStart_toEndOf="@id/size"
        app:layout_constraintTop_toBottomOf="@id/hori4" />

    <TextView
        android:id="@+id/yourorder"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="10dp"
        android:text="@string/yourorder"
        android:textColor="@color/primary"
        android:textStyle="bold"
        app:layout_constraintStart_toEndOf="@id/guideline4"
        app:layout_constraintTop_toBottomOf="@id/hori4" />

    <ImageView
        android:id="@+id/burger"
        android:contentDescription="@string/burgerImage"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="15dp"
        android:layout_marginTop="10dp"
        android:src="@drawable/burger"
        app:layout_constraintStart_toEndOf="@id/yourorder"
        app:layout_constraintTop_toBottomOf="@id/hori4" />

    <androidx.constraintlayout.widget.Guideline
        android:id="@+id/guideline4"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:orientation="vertical"
        app:layout_constraintGuide_begin="217dp" />

    <TextView
        android:id="@+id/summary"
        android:layout_width="180dp"
        android:layout_height="80dp"
        android:text="@string/placeholder"
        android:textColor="@color/primary"
        app:layout_constraintStart_toEndOf="@id/guideline4"
        app:layout_constraintTop_toBottomOf="@id/burger" />

    <TextView
        android:id="@+id/price"
        android:layout_width="100dp"
        android:layout_height="30dp"
        android:background="@color/price"
        android:gravity="center"
        android:text="@string/priceplaceholder"
        android:textColor="@color/primary"
        android:textStyle="bold"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toEndOf="@id/guideline4"
```

```xml
        app:layout_constraintTop_toBottomOf="@id/guideline5" />

    <androidx.constraintlayout.widget.Guideline
        android:id="@+id/guideline5"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:orientation="horizontal"
        app:layout_constraintGuide_begin="501dp" />

    <androidx.constraintlayout.widget.Guideline
        android:id="@+id/guideline6"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:orientation="horizontal"
        app:layout_constraintGuide_begin="581dp" />

    <LinearLayout
        android:id="@+id/dot1F2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:background="@drawable/dot_mute"
        android:orientation="horizontal"
        app:layout_constraintBottom_toTopOf="@id/guideline6"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        android:layout_marginEnd="10dp"/>

    <LinearLayout
        android:id="@+id/dot2F2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:orientation="horizontal"
        android:background="@drawable/dot"
        app:layout_constraintBottom_toBottomOf="@id/guideline6"
        app:layout_constraintStart_toEndOf="@id/dot1F2"
        android:layout_marginStart="10dp"
        />


</androidx.constraintlayout.widget.ConstraintLayout>
```

```java
package com.example.assignment3task2;

import androidx.appcompat.app.AppCompatActivity;
import androidx.fragment.app.FragmentManager;

import android.net.Uri;
import android.os.Bundle;
import android.util.Log;
import android.widget.Toast;

import java.util.ArrayList;

public class MainActivity extends AppCompatActivity implements
FragmentOne.OnFragmentInteractionListener{

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        FragmentOne fragmentOne= new FragmentOne();
        FragmentManager fragmentManager=getSupportFragmentManager();

fragmentManager.beginTransaction().add(R.id.layout,fragmentOne).addToBackStack("true").commit()
;

    }


    //this here is the interface
    @Override
    public void onFragmentInteraction(String meat, ArrayList<String> fiber) {
        FragmentTwo fragment=FragmentTwo.newInstance(meat,fiber);
        getSupportFragmentManager()
            .beginTransaction()
            .replace(R.id.layout,fragment)
            .addToBackStack(null)
            .commit();
    }
}
```

```java
package com.example.assignment3task2;

import android.content.Context;
import android.gesture.GestureUtils;
import android.net.Uri;
import android.os.Bundle;

import androidx.fragment.app.Fragment;

import android.util.Log;
import android.view.GestureDetector;
import android.view.LayoutInflater;
import android.view.MotionEvent;
import android.view.View;
import android.view.ViewGroup;
import android.widget.CheckBox;
import android.widget.RadioButton;
import android.widget.RadioGroup;
import android.widget.Toast;

import java.util.ArrayList;
import java.util.HashMap;


public class FragmentOne extends Fragment implements GestureDetector.OnGestureListener{

    //RadioGroup
    private RadioGroup radioGroup;
    private boolean isProtein=false; //validate that a protein is picked
    private RadioButton radioButton;
    private String selected_meat="";//to be bundled

    //Fiber
    private String[] fiberID;
    private CheckBox[] checkBoxes_fiber;
    private ArrayList<String> selected_fiber=new ArrayList<>();//to be bundled
    private int selection=3;
    private int numofVeg=0;
    private boolean vegPromo=false;



    private OnFragmentInteractionListener mListener;

    private GestureDetector gestureDetector;

    public FragmentOne() {
        // Required empty public constructor
    }


    @Override
    public void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
    }

    private void initMain(View view){
        initRadioGroup(view);
        initFiber(view);
```

```java
    }

    private void initRadioGroup(final View view) {
        radioGroup=view.findViewById(R.id.radioGroup);
        radioGroup.setOnCheckedChangeListener(new RadioGroup.OnCheckedChangeListener() {
            @Override
            public void onCheckedChanged(RadioGroup group, int checkedId) {
                isProtein=true;
                int id=radioGroup.getCheckedRadioButtonId();
                radioButton=((View)view).findViewById(id);
                String result=radioButton.getText().toString();
                selected_meat=result;
            }
        });
    }


    private void initFiber(View view){
        fiberID=view.getResources().getStringArray(R.array.fiber);
        checkBoxes_fiber=new CheckBox[fiberID.length];
        for(int i=0;i<fiberID.length;i++){
            int id=getResources().getIdentifier(fiberID[i],"id",view.getContext().getPackageName());
            checkBoxes_fiber[i]=view.findViewById(id);
            checkBoxes_fiber[i].setOnClickListener(new View.OnClickListener(){
                @Override
                public void onClick(View v) {
                    if(((CheckBox) v).isChecked()){
                        vegChecked();
                    }else{
                        vegUnchecked();
                    }
                }
            });
        }
    }
    private void vegChecked(){
        selection--;
        numofVeg++;
        checkSelection();
    }
    private void vegUnchecked(){
        selection++;
        numofVeg--;
        checkSelection();
    }
    private void checkSelection(){
        for(int i=0;i<checkBoxes_fiber.length;i++){
            if(selection==0){
                if(!checkBoxes_fiber[i].isChecked()){
                    checkBoxes_fiber[i].setClickable(false);
                    checkBoxes_fiber[i].setEnabled(false);
                }
            }else{
                checkBoxes_fiber[i].setClickable(true);
                checkBoxes_fiber[i].setEnabled(true);
            }
        }
    }
```

```java
    private void reset(View view){

        //reset meat section
        radioGroup.setOnCheckedChangeListener(null);
        radioGroup.clearCheck();
        selected_meat="";

        //reset vegetables section
        selected_fiber=new ArrayList<>();
        selection=3;
        numofVeg=0;
        vegPromo=false;
        clearCheckBox();

        //re-init
        initRadioGroup(view);
        initFiber(view);
    }
    private void clearCheckBox(){
        for(int i=0;i<checkBoxes_fiber.length;i++){
            checkBoxes_fiber[i].setChecked(false);
            checkBoxes_fiber[i].setClickable(true);
            checkBoxes_fiber[i].setEnabled(true);
        }
    }
    private void getVeg(){
        for(int i=0;i<checkBoxes_fiber.length;i++){
            if(checkBoxes_fiber[i].isChecked()){
                selected_fiber.add(checkBoxes_fiber[i].getText().toString());
            }
        }
    }
    @Override
    public View onCreateView(LayoutInflater inflater, ViewGroup container,
                    Bundle savedInstanceState) {
        // Inflate the layout for this fragment
        final View view=inflater.inflate(R.layout.fragment_one,container,false);
        //GestureDetector
        gestureDetector=new GestureDetector(this);
        view.setOnTouchListener(new View.OnTouchListener() {
            @Override
            public boolean onTouch(View v, MotionEvent event) {
                if(gestureDetector.onTouchEvent(event)){
                    if(isProtein){
                        //function to get array of selected veggies
                        getVeg();
                        onButtonPressed(selected_meat,selected_fiber);
                        reset(view);
                    }else{
                        Toast.makeText(getActivity(),"Pick a Protein to
proceed",Toast.LENGTH_SHORT).show();
                    }
                }
                return true;
            }
        });
        initMain(view);
        return view;
    }
```

```java
public void onButtonPressed(String meat,ArrayList<String> fiber) {
    if (mListener != null) {
        mListener.onFragmentInteraction(meat,fiber);
    }
}

@Override
public void onAttach(Context context) {
    super.onAttach(context);
    if (context instanceof OnFragmentInteractionListener) {
        mListener = (OnFragmentInteractionListener) context;
    } else {
        throw new RuntimeException(context.toString()
                + " must implement OnFragmentInteractionListener");
    }
}

@Override
public void onDetach() {
    super.onDetach();
    mListener = null;
}

@Override
public boolean onDown(MotionEvent e) {
    return false;
}

@Override
public void onShowPress(MotionEvent e) {

}

@Override
public boolean onSingleTapUp(MotionEvent e) {
    return false;
}

@Override
public boolean onScroll(MotionEvent e1, MotionEvent e2, float distanceX, float distanceY) {
    return false;
}

@Override
public void onLongPress(MotionEvent e) {

}

@Override
public boolean onFling(MotionEvent e1, MotionEvent e2, float velocityX, float velocityY) {
    boolean result=false;
    float diffX=e2.getX()-e1.getX();
    //diffX<0 means swipe right to left.
    if(diffX<0){
        result=true;
    }
    return result;
}
```

```java
    public interface OnFragmentInteractionListener {
        void onFragmentInteraction(String meat,ArrayList<String> fiber);
    }
}
```

Java Code for FragmentTwo

```java
package com.example.assignment3task2;

import android.content.Context;
import android.net.Uri;
import android.os.Bundle;

import androidx.fragment.app.Fragment;

import android.util.Log;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.widget.AdapterView;
import android.widget.ArrayAdapter;
import android.widget.CheckBox;
import android.widget.Spinner;
import android.widget.TextView;

import java.lang.reflect.Array;
import java.util.ArrayList;
import java.util.HashMap;


public class FragmentTwo extends Fragment {

    private static final String ARG_PARAM1 = "selected_meat";
    private static final String ARG_PARAM2 = "selected_fiber";


    // TODO: Rename and change types of parameters
    private String selected_meat;
    private ArrayList<String> selected_fiber;
    private String temp;
    private Double initialPrice=0.0;


    //Junk
    private String[] junkID;
    private CheckBox[] checkBoxes_junk;
    private String selected_junk=""; //implement an update method to dynamically change the summary

    //Size
    private boolean isSize=false;
    static private double selected_size;
    private Spinner spinner;
    private ArrayAdapter<String> adapter;
    private String sizeDefault="Small";
    private String[] size;

    //HashMap
    private HashMap<String,Double> junk;
    private HashMap<String,Double> sizeHash;
    private HashMap<String,Double> meatHash; //placed in second fragment
    private HashMap<String,Double> fiberHash; //placed in second fragment
```

```java
//widgets
private TextView summary,price;
private String initialSummary="";

public FragmentTwo() {
    // Required empty public constructor
}


public static FragmentTwo newInstance(String param1, ArrayList<String> param2) {
    FragmentTwo fragment = new FragmentTwo();
    Bundle args = new Bundle();
    args.putString(ARG_PARAM1, param1);
    args.putStringArrayList(ARG_PARAM2, param2);
    fragment.setArguments(args);
    return fragment;
}

@Override
public void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    if (getArguments() != null) {
        selected_meat = getArguments().getString(ARG_PARAM1);
        selected_fiber = getArguments().getStringArrayList(ARG_PARAM2);
    }
    initHashMap();
    initPrice();
}
private void initMain(View view,ViewGroup container){
    price=view.findViewById(R.id.price);
    initSummary(view);
    updatePrice();
    initJunk(view);
    initSpinner(view,container);
}
private void initHashMap(){
    //junk
    junk=new HashMap<>();
    junk.put("Cheese",1.00);
    junk.put("Mayonaise",0.50);
    junk.put("Mustard",0.70);

    //size
    sizeHash=new HashMap<>();
    sizeHash.put("Regular",1.2);
    sizeHash.put("Small",1.0);
    sizeHash.put("Large",1.3);
    sizeHash.put("Gigantic",1.5);

    //meat
    meatHash=new HashMap<>();
    meatHash.put("beef",4.50);
    meatHash.put("chicken",3.00);
    meatHash.put("fish",4.00);
    meatHash.put("egg",2.00);

    //fiber
    fiberHash=new HashMap<>();
    fiberHash.put("veg",0.50);
}
```

```java
private void initPrice(){
    initialPrice+=meatHash.get(selected_meat);
    double temp=fiberHash.get("veg");
    switch(selected_fiber.size()){
        case 0:
            break;
        case 1:
            initialPrice+=temp;
            break;
        case 2:
            initialPrice+=(temp*2);
            break;
        case 3:
            initialPrice+=(temp*2);
            break;
    }
}
private void updateSummary(){
    if(selected_fiber.size()!=0){
        initialSummary=selected_meat+" with "+temp+" top up with "+selected_junk;
    }else{
        initialSummary=selected_meat+" top up with "+selected_junk;
    }
    summary.setText(initialSummary);
}
private void initSummary(View view){
    summary=view.findViewById(R.id.summary);
    getVeg();
    if(selected_fiber.size()!=0){
        initialSummary=selected_meat+" with "+temp+" top up with ";
    }else{
        initialSummary=selected_meat+" top up with ";
    }
    summary.setText(initialSummary);
}
private void initJunk(View view){
    junkID=view.getResources().getStringArray(R.array.junk);
    checkBoxes_junk=new CheckBox[junkID.length];
    for(int i=0;i<junkID.length;i++){
        int id=getResources().getIdentifier(junkID[i],"id",view.getContext().getPackageName());
        checkBoxes_junk[i]=view.findViewById(id);
        checkBoxes_junk[i].setOnClickListener(new View.OnClickListener(){
            @Override
            public void onClick(View v) {
                if(((CheckBox)v).isChecked()){
                    checkChanges();
                    getJunk();
                    updateSummary();

                }else{
                    checkChanges();
                    getJunk();
                    updateSummary();
                }
            }
        });
    }
}
private void getJunk(){
    ArrayList<String> temp=new ArrayList<>();
```

```java
        selected_junk="";
        for(int i=0;i<checkBoxes_junk.length;i++){
            if(checkBoxes_junk[i].isChecked()){
                temp.add(checkBoxes_junk[i].getText().toString());
            }
        }
        for(int i=0;i<temp.size();i++){
            if(i!=temp.size()-1){
                selected_junk+=temp.get(i)+",";
            }else{
                selected_junk+=temp.get(i);
            }
        }
        selected_junk=selected_junk.toLowerCase();
    }
    private void getVeg(){
        temp="";
        for(int i=0;i<selected_fiber.size();i++){
            if(i!=selected_fiber.size()-1){
                temp+=selected_fiber.get(i)+",";
            }else{
                temp+=selected_fiber.get(i);
            }
        }
    }

    }


    private void initSpinner(View view,ViewGroup container){
        size=view.getResources().getStringArray(R.array.sizes);
        spinner=view.findViewById(R.id.spinner);
        adapter=new ArrayAdapter<String>(container.getContext(),android.R.layout
                .simple_spinner_item,size);
        adapter.setDropDownViewResource(android.R.layout.simple_spinner_dropdown_item);
        spinner.setAdapter(adapter);
        spinner.setOnItemSelectedListener(new AdapterView.OnItemSelectedListener() {
            @Override
            public void onItemSelected(AdapterView<?> parent, View view, int position, long id) {
                sizeDefault=spinner.getSelectedItem().toString();
                checkChanges();
            }

            @Override
            public void onNothingSelected(AdapterView<?> parent) {
                sizeDefault="Small";
            }
        });
    }

    private void updatePrice(){
        price.setText(String.format("RM%.2f",initialPrice));
    }

    private void checkChanges(){
        initialPrice=0.0;
        initPrice();
        for(int i=0;i<checkBoxes_junk.length;i++){
            if(checkBoxes_junk[i].isChecked()){
                initialPrice+=junk.get(checkBoxes_junk[i].getText().toString());
            }
        }
```

```java
        }
        initialPrice*=sizeHash.get(sizeDefault);
        updatePrice();

    }
    @Override
    public View onCreateView(LayoutInflater inflater, ViewGroup container,
                    Bundle savedInstanceState) {
        View view=inflater.inflate(R.layout.fragment_two, container, false);
        initMain(view,container);
        return view;
    }
}
```