Mobile Application Development MSE1 notes

MSE1 Programs List

1. Design an application that includes four checkboxes namely any four food items and one button. Find the total amount of food items selected in the Toast message after clicking the button.

2. Design an application that generates a random color with each click on the COLOR button.

3. Implement the options menu concept in the application to choose between two activities(Give appropriate titles to activities).

4. Implement context menu concept in application to change the background color.

5. Design an application that sends SMS using SmsManger App/Built SMS app.

6. Design a phone call application that takes a phone number from the user.

7. Write an application to make a dialogue box to confirm the change of background color/image.

8. Write an application to toast your joining date and course selected for engineering using a Date picker and List view/Spinner.

9. Design an application that captures the image using a camera and set it as background for your application.

10. Design calculator application that performs arithmetic operations (+,-,*,%) and resets number and result fields with the CLEAR button.

11. Design an application resume builder application with necessary fields. (Personal details using edit text, gender using the radio button, skills using multi text).1.Design an application that generates a random color with each click on the COLOR button.

1.Design an application that includes four checkboxes namely any four food items and one button. Find the total amount of food items selected in the Toast message after clicking the button.

```
package com.example.myapplication1;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.CheckBox;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        CheckBox c1= (CheckBox) findViewById(R.id.checkBox1);
        CheckBox c2= (CheckBox) findViewById(R.id.checkBox2);
        CheckBox c3= (CheckBox) findViewById(R.id.checkBox3);
        Button b= (Button) findViewById(R.id.button);
        b.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                int total=0;
```

```
            StringBuilder s=new StringBuilder();
            if(c1.isChecked()){
                s.append("\nRice\t:\tRs.100");
                total+=100;
            }
            if(c2.isChecked()){
                s.append("\nBread\t:\tRs.70");
                total+=70;
            }
            if(c3.isChecked()){
                s.append("\nCake\t:\tRs.50");
                total+=50;
            }
            s.append("\nTotal:-\t Rs."+total+"/-");

Toast.makeText(getApplicationContext(),s.toString(),Toast.LENGTH_LONG).show();
        }
    });

  }

}
```

2. **Design an application that generates a random color with each click on the COLOR button.**

```
package com.example.myapplication2;
import androidx.appcompat.app.AppCompatActivity;
import androidx.constraintlayout.widget.ConstraintLayout;
import android.graphics.Color;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import java.util.Random;

public class MainActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        Button btn=(Button) findViewById(R.id.button);
        btn.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                ConstraintLayout cl=(ConstraintLayout) findViewById(R.id.cl);
                Random gen=new Random();

cl.setBackgroundColor(Color.rgb(gen.nextInt(256),gen.nextInt(256),gen.nextInt(256)
));
            }
        });
    }
```

3. **Implement the options menu concept in the application to choose between two activities(Give appropriate titles to activities).**

MainActivity2.java
```java
package com.example.myapplication3;
import androidx.appcompat.app.ActionBar;
import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;

public class MainActivity2 extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main2);
        ActionBar actionBar = getSupportActionBar();
        actionBar.setTitle("First Activity");

        Button btn1 = (Button) findViewById(R.id.button1);
        btn1.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                Intent i = new Intent(getApplicationContext(), MainActivity.class);
                startActivity(i);
            }
        });
    }
}
```

MainActivity3.java
```java
package com.example.myapplication3;
import androidx.appcompat.app.ActionBar;
import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
```

```java
public class MainActivity3 extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main3);
        ActionBar actionBar = getSupportActionBar();
        actionBar.setTitle("Second Activity");

        Button btn2 = (Button) findViewById(R.id.button2);
        btn2.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                Intent i = new Intent(getApplicationContext(), MainActivity.class);
                startActivity(i);
            }
        });
    }
}
```

MainActiviy.java
```java
package com.example.myapplication3;
import androidx.annotation.NonNull;
import androidx.appcompat.app.ActionBar;
import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;
import android.os.Bundle;
import android.view.Menu;
import android.view.MenuInflater;
import android.view.MenuItem;

public class MainActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        ActionBar actionBar=getSupportActionBar();
        actionBar.setTitle("Main Activity");
```

```java
    }

    @Override
    public boolean onCreateOptionsMenu(Menu menu) {
        MenuInflater inflater=getMenuInflater();
        inflater.inflate(R.menu.options,menu);
        return super.onCreateOptionsMenu(menu);
    }

    @Override
    public boolean onOptionsItemSelected(@NonNull MenuItem item) {
        switch(item.getItemId()){
            case R.id.f1:
                startActivity(new Intent(this,MainActivity2.class));
                return true;
            case R.id.f2:
                startActivity(new Intent(this,MainActivity3.class));
                return true;
            default:
                return super.onOptionsItemSelected(item);
        }

    }
}
```

4. **Implement context menu concept in application to change the background color.**

```java
package com.example.myapplication4;
import androidx.annotation.NonNull;
import androidx.appcompat.app.AppCompatActivity;
import androidx.constraintlayout.widget.ConstraintLayout;
import android.graphics.Color;
import android.os.Bundle;
import android.view.ContextMenu;
import android.view.MenuInflater;
import android.view.MenuItem;
import android.view.View;
import android.widget.TextView;

public class MainActivity extends AppCompatActivity {
```

```java
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        TextView t1 = (TextView) findViewById(R.id.textview);
        registerForContextMenu(t1);
    }
    @Override
    public void onCreateContextMenu(ContextMenu menu, View v,
ContextMenu.ContextMenuInfo menuInfo) {
        super.onCreateContextMenu(menu, v, menuInfo);
        MenuInflater inflater = getMenuInflater();
        inflater.inflate(R.menu.m,menu);

    }
    @Override
    public boolean onContextItemSelected(@NonNull MenuItem item) {
        ConstraintLayout cl=(ConstraintLayout)findViewById(R.id.cl);
        switch (item.getItemId())
        {
            case R.id.red:
                cl.setBackgroundColor(Color.RED);
                return true;
            case R.id.blue:
                cl.setBackgroundColor(Color.BLUE);
                return true;
            case R.id.green:
                cl.setBackgroundColor(Color.GREEN);
                return true;
        }
        return super.onContextItemSelected(item);
    }
}
```

5. **Design an application that sends SMS using SmsManger App/Built in SMS app.**

- **Using built-in sms app**

```java
package com.example.myapplication5;
import androidx.appcompat.app.AppCompatActivity;
import androidx.core.app.ActivityCompat;
import android.Manifest;
import android.content.Intent;
import android.net.Uri;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        ActivityCompat.requestPermissions(this,new
   String[]{Manifest.permission.SEND_SMS},1);
        EditText num=(EditText)findViewById(R.id.editText1);
        EditText msg=(EditText)findViewById(R.id.editText2);
        Button btn=(Button) findViewById(R.id.button);

        btn.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                String phone=num.getText().toString();
                String mesg=msg.getText().toString();
                Intent i=new Intent(Intent.ACTION_VIEW, Uri.parse("sms:"+phone));
                i.putExtra("sms_body",mesg);
                try {
                    startActivity(i);
                } catch (android.content.ActivityNotFoundException ex) {
                    Toast.makeText(MainActivity.this,        "Permission        denied",
   Toast.LENGTH_SHORT).show();
```

```
            }
        }
    });
  }
}
```

- **Using SmsManager API**

```java
package com.example.myapplication5;
import androidx.appcompat.app.ActionBar;
import androidx.appcompat.app.AppCompatActivity;
import androidx.core.app.ActivityCompat;
import android.Manifest;
import android.app.PendingIntent;
import android.content.Intent;
import android.net.Uri;
import android.os.Bundle;
import android.telephony.SmsManager;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;
import java.net.URI;

public class MainActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        ActivityCompat.requestPermissions(this,new
  String[]{Manifest.permission.SEND_SMS},1);
        EditText num=(EditText)findViewById(R.id.editText1);
        EditText msg=(EditText)findViewById(R.id.editText2);
        Button btn=(Button) findViewById(R.id.button);
```

```
        btn.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                String phone=num.getText().toString();
                String mesg=msg.getText().toString();
                //Get the SmsManager instance and call the sendTextMessage method
    to send message
                SmsManager sms = SmsManager.getDefault();
                sms.sendTextMessage(phone,null,mesg,null,null);
                Toast.makeText(getApplicationContext(),        "Message        Sent
    successfully!", Toast.LENGTH_LONG).show();
            }
        });
    }
}
```

6. **Design a phone call application that takes a phone number from the user.**

```
package com.example.myapplication6;
import androidx.appcompat.app.AppCompatActivity;
import androidx.core.app.ActivityCompat;


import android.Manifest;
import android.content.Intent;
import android.net.Uri;
import android.os.Bundle;
import android.util.Log;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;


public class MainActivity extends AppCompatActivity {

    @Override
```

```java
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        ActivityCompat.requestPermissions(this,new
    String[]{Manifest.permission.CALL_PHONE},1);
        EditText num=(EditText) findViewById(R.id.editText);
        Button call=(Button) findViewById(R.id.button);
        call.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                String number=num.getText().toString();
                Intent callintent=new Intent(Intent.ACTION_CALL);
                callintent.setData(Uri.parse("tel:"+number));
                try {
                    startActivity(callintent);
                }catch (Exception e){
                    Log.d("error",e.getMessage());
                    Toast.makeText(getApplicationContext(),"call            permission
    denied",Toast.LENGTH_SHORT).show();


                }
            }
        });
    }
}
```

7. Write an application to make a dialogue box to confirm the change of background color/image.

- **change of background color**

```java
package com.example.myapplication7;

import androidx.appcompat.app.AlertDialog;

import androidx.appcompat.app.AppCompatActivity;

import androidx.constraintlayout.widget.ConstraintLayout;

import android.content.DialogInterface;

import android.graphics.Color;
```

```java
import android.os.Bundle;

import android.view.View;

import android.widget.Button;

import java.util.Random;


public class MainActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        Button b1=(Button) findViewById(R.id.button);
        b1.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                AlertDialog.Builder b=new AlertDialog.Builder(MainActivity.this);
                b.setTitle("BackGround Color Changer");
                b.setMessage("Are you sure you want to change the color");
                b.setPositiveButton("yes", new DialogInterface.OnClickListener() {
                    @Override
                    public void onClick(DialogInterface dialogInterface, int i) {
                        ConstraintLayout r=findViewById(R.id.cl);
                        Random gen=new Random();

    r.setBackgroundColor(Color.rgb(gen.nextInt(256),gen.nextInt(100),gen.nextInt(100)));
                    }
                });
                b.setNegativeButton("no", new DialogInterface.OnClickListener() {
                    @Override
                    public void onClick(DialogInterface dialogInterface, int i) {
```

```
                    }
                });
                b.show();
            }
        });
    }
}
```

- **change of background image**

```
package com.example.myapplication7;

import androidx.appcompat.app.AlertDialog;

import androidx.appcompat.app.AppCompatActivity;

import androidx.constraintlayout.widget.ConstraintLayout;

import androidx.core.content.ContextCompat;

import android.content.DialogInterface;

import android.os.Bundle;

import android.view.View;

import android.widget.Button;

import android.widget.Toast;

import java.util.Random;


public class MainActivity extends AppCompatActivity {
    int [] back_images;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        ConstraintLayout r=findViewById(R.id.cl);
        Button b1=(Button) findViewById(R.id.button);
        b1.setOnClickListener(new View.OnClickListener() {
            @Override
```

```java
    public void onClick(View view) {
        AlertDialog.Builder b=new AlertDialog.Builder(MainActivity.this);
        b.setTitle("BackGround Image Changer");
        b.setMessage("Are you sure you want to change background image?");
        back_images=new
int[]{R.drawable.picture1,R.drawable.picture2,R.drawable.picture3,R.drawable.picture
4};
        b.setPositiveButton("yes", new DialogInterface.OnClickListener() {
            @Override
            public void onClick(DialogInterface dialogInterface, int i) {
                int arrlength=back_images.length;
                Random gen=new Random();
                int ran_no=gen.nextInt(4);

r.setBackground(ContextCompat.getDrawable(getApplicationContext(),back_images[r
an_no]));
            }
        });
        b.setNegativeButton("no", new DialogInterface.OnClickListener() {
            @Override
            public void onClick(DialogInterface dialogInterface, int i) {


            }
        });
        b.show();
    }
});
    }
}
```

8.Write an application to toast your joining date and course selected for engineering using a Date picker and List view/Spinner.

```java
package com.example.myapplication8;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.AdapterView;
import android.widget.ArrayAdapter;
import android.widget.DatePicker;
import android.widget.ListView;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {
    String[] branch ={"CSE", "ECE", "EEE", "Mech"};
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        ArrayAdapter          a=          new          ArrayAdapter(this,
android.R.layout.simple_list_item_1,branch);
        ListView lv=(ListView)findViewById(R.id.li);
        DatePicker d=(DatePicker)findViewById(R.id.dp);
        lv.setAdapter(a);
        lv.setOnItemClickListener(new AdapterView.OnItemClickListener() {
            @Override
            public void onItemClick(AdapterView<?> adapterView, View view, int i, long l)
{
                String date=d.getDayOfMonth()+"/"+d.getMonth()+"/"+d.getYear();
                Toast.makeText(getApplicationContext(),"Join  date  is:"+date+"\nSelected
branch is:"+branch[i],Toast.LENGTH_SHORT).show();

            }
        });
    }
}
```

9. **Design an application that captures the image using a camera and set it as background for your application.**

```
package com.example.myapplication9;
import androidx.annotation.Nullable;
import androidx.appcompat.app.AppCompatActivity;
import androidx.constraintlayout.widget.ConstraintLayout;
import android.content.Intent;
import android.graphics.Bitmap;
import android.graphics.drawable.BitmapDrawable;
import android.os.Bundle;
import android.provider.MediaStore;
import android.view.View;
import android.widget.Button;
import android.widget.ImageView;


public class MainActivity extends AppCompatActivity {
    ImageView imageView;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        Button bt=(Button) findViewById(R.id.button);
        imageView = findViewById(R.id.imageView);
        bt.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                Intent i=new Intent(MediaStore.ACTION_IMAGE_CAPTURE);
                startActivityForResult(i,1);
            }
        });

    }
```

```java
@Override
protected void onActivityResult(int requestCode, int resultCode, @Nullable
Intent data) {
    if(requestCode==1 && resultCode==RESULT_OK)
    {

        Bitmap image = (Bitmap) data.getExtras().get("data");
        imageView.setImageBitmap(image);
        BitmapDrawable drawable= new BitmapDrawable(image);
        ConstraintLayout r=findViewById(R.id.cl);
        r.setBackground(drawable);
    }
    super.onActivityResult(requestCode, resultCode, data);
  }
}
```

10. Design calculator application that performs arithmetic operations (+,-,*,%) and resets number and result fields with the CLEAR button.

```java
package com.example.myapplication10;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;

public class MainActivity extends AppCompatActivity implements View.OnClickListener {
    EditText f, s;
    TextView result;
    Button add, sub, mul, div, cls;
    @Override
    public void onClick(View view) {
        int n1 = Integer.parseInt(f.getText().toString());
        int n2 = Integer.parseInt(s.getText().toString());

        result.setText("");
        switch (view.getId())
        {
```

```java
        case R.id.add:
            result.setText(n1 + " + " + n2 + " = " + (n1+n2));
            break;


        case R.id.sub:
            result.setText(n1 + " - " + n2 + " = " + (n1-n2));
            break;


        case R.id.mul:
            result.setText(n1 + " x " + n2 + " = " + (n1*n2));
            break;


        case R.id.div:
            result.setText(n1 + " / " + n2 + " = " + (n1/n2));
            break;


        case R.id.clear:
            f.setText("");
            s.setText("");
            break;
    }
}
@Override
protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);


    f = findViewById(R.id.num1);
    s = findViewById(R.id.num2);


    result = findViewById(R.id.result);


    add = findViewById(R.id.add);
    sub = findViewById(R.id.sub);
    mul = findViewById(R.id.mul);
    div = findViewById(R.id.div);
    cls = findViewById(R.id.clear);
```

```java
        add.setOnClickListener(MainActivity.this);
        sub.setOnClickListener(MainActivity.this);
        mul.setOnClickListener(MainActivity.this);
        div.setOnClickListener(MainActivity.this);
        cls.setOnClickListener(MainActivity.this);
    }
}
```