

Practical no. 1

Create "Hello World" application. That will display "Hello World" in the middle of the screen in the red color with white background.

```
package com.example.Lab_1;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

public class MainActivity extends AppCompatActivity {
    TextBox textbox1;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        textbox1 = (TextBox1) findViewById(R.id.text1);
        textbox1.setText("Hello World");
    }
}
```

Practical no. 2

**Create My_info application. That will display your name, qualification, contact num, email id and address with background colorgray. All details must have different color. (using XML)
Change color of above program using java code**

```
package com.example.lab_2;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

public class MainActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
    }
}
```

practical no. 3

Write a program to demonstrate life cycle of activity in android.

```
public class MainActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        Log.d("lifecycle", "onCreate invoked");
    }
}
```

```

    }
    @Override
    protected void onStart() {
        super.onStart();
        Log.d("lifecycle", "onStart invoked");
    }
    @Override
    protected void onResume() {
        super.onResume();
        Log.d("lifecycle", "onResume invoked");
    }
    @Override
    protected void onPause() {
        super.onPause();
        Log.d("lifecycle", "onPause invoked");
    }
    @Override
    protected void onStop() {
        super.onStop();
        Log.d("lifecycle", "onStop invoked");
    }
    @Override
    protected void onRestart() {
        super.onRestart();
        Log.d("lifecycle", "onRestart invoked");
    }
    @Override
    protected void onDestroy() {
        super.onDestroy();
        Log.d("lifecycle", "onDestroy invoked");
    }
}

```

Practical no. 4

Create an application that designs a layout with a text box and button named submit. The user should enter the text in the text box. When the submit button is clicked than the text in the text box should be displayed in the toast.

```

public class MainActivity extends AppCompatActivity {

    EditText text;
    Button button;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        text = (EditText) findViewById(R.id.text1);
        button = (Button) findViewById(R.id.button1);

        button.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                String s = text.getText().toString();
                Toast.makeText(getApplicationContext(), s,
Toast.LENGTH_LONG).show();
            }
        });
    }
}

```

```
}
```

Practical no. 5

Create an android application named ³Arithmetic_op which perform all basic arithmetic operation like addition, subtraction, multiplication and division.

```
public class MainActivity extends AppCompatActivity {
    EditText num1, num2;
    TextView output;
    Button btn1, btn2, btn3, btn4;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        num1 = (EditText) findViewById(R.id.edittext1);
        num2 = (EditText) findViewById(R.id.edittext2);
        output = (TextView) findViewById(R.id.output);
        btn1 = (Button) findViewById(R.id.add);
        btn2 = (Button) findViewById(R.id.sub);
        btn3 = (Button) findViewById(R.id.mul);
        btn4 = (Button) findViewById(R.id.div);

        btn1.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                String s1 = num1.getText().toString();
                String s2 = num2.getText().toString();
                int a = Integer.parseInt(s1);
                int b = Integer.parseInt(s2);
                int c = a + b;

                output.setText("Addition is -> "+Integer.toString(c));
            }
        });

        btn2.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                String s1 = num1.getText().toString();
                String s2 = num2.getText().toString();
                int a = Integer.parseInt(s1);
                int b = Integer.parseInt(s2);
                int c = a - b;

                output.setText("Substraction is -> "+Integer.toString(c));
            }
        });

        btn3.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                String s1 = num1.getText().toString();
                String s2 = num2.getText().toString();
                int a = Integer.parseInt(s1);
                int b = Integer.parseInt(s2);
                int c = a * b;

                output.setText("Multiplication is -> "+Integer.toString(c));
            }
        });
    }
}
```

```

    });

    btn4.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View view) {
            String s1 = num1.getText().toString();
            String s2 = num2.getText().toString();
            int a = Integer.parseInt(s1);
            int b = Integer.parseInt(s2);
            int c = a / b;

            output.setText("Division is -> "+Integer.toString(c));
        }
    });
}
}

```

Practical no. 6

Create simple program which show the use of auto complete text view.

```

public class MainActivity extends AppCompatActivity {
    AutoCompleteTextView text;
    String name[] = {"Aman", "Singh", "Roshni", "Parul", "University"};

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        text = (AutoCompleteTextView) findViewById(R.id.textview1);
        ArrayAdapter adapter = new ArrayAdapter(MainActivity.this,
android.R.layout.select_dialog_item, name);
        text.setAdapter(adapter);
        text.setThreshold(1);
    }
}

```

Practical no. 7

Create sample application with login module.(Check username and password) On successful login, go to next screen. And on failing login, alert user using Toast. Also pass username to next screen.

```

public class MainActivity extends AppCompatActivity {
    EditText user, pass;
    Button btn;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        user = (EditText) findViewById(R.id.username);
        pass = (EditText) findViewById(R.id.password);
    }
}

```

```

        btn = (Button) findViewById(R.id.login);

        btn.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                if (user.getText().toString().equals("Admin") &&
pass.getText().toString().equals("Admin")) {
                    Toast.makeText(getApplicationContext(), "Login Successful",
Toast.LENGTH_LONG).show();

                        openActivity2();
                    }
                else {
                    Toast.makeText(getApplicationContext(), "Invalid
Credentials", Toast.LENGTH_LONG).show();
                }
            }
        });
    }

    public void openActivity2() {
        Intent i = new Intent(this, Activity2.class);
        i.putExtra("usr", user.getText().toString());
        i.putExtra("pas", pass.getText().toString());
        startActivity(i);
    }
}

```

Practical no. 8

Create login application where you will have to validate Email ID (UserName). Till the user name and password is not validated, login button should remain disabled.

```

public class MainActivity extends AppCompatActivity {
    Button btn;
    EditText user, pass;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        user = (EditText) findViewById(R.id.email);
        pass = (EditText) findViewById(R.id.email);
        btn = (Button) findViewById(R.id.button);

        user.addTextChangedListener(textWatcher);
        pass.addTextChangedListener(textWatcher);

        btn.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                Toast.makeText(getApplicationContext(), "Login Successful",
Toast.LENGTH_LONG).show();
            }
        });
    }

    TextWatcher textWatcher = new TextWatcher() {
        @Override

```

```

        public void beforeTextChanged(CharSequence charSequence, int i, int i1,
int i2) {
            }

            @Override
            public void onTextChanged(CharSequence charSequence, int i, int i1, int
i2) {
                String usrnm = user.getText().toString().trim();
                String pswd = pass.getText().toString().trim();

                btn.setEnabled(!usrnm.isEmpty() && !pswd.isEmpty());

                @Override
                public void afterTextChanged(Editable editable) {
                    }
            }
        };
    }
}

```

Practical no. 9

Create an application that will pass username and password on the next screen.

```

public class MainActivity extends AppCompatActivity {

    EditText usr, pwd;
    Button btn;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        usr = (EditText) findViewById(R.id.username);
        pwd = (EditText) findViewById(R.id.password);
        btn = (Button) findViewById(R.id.login);

        btn.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                if (usr.getText().toString().equals("amankrs21") &&
pwd.getText().toString().equals("amanraj")) {
                    Toast.makeText(getApplicationContext(), "Login Successfull",
Toast.LENGTH_LONG).show();
                    activity2();
                }
                else {
                    Toast.makeText(getApplicationContext(), "Invalid Credentials",
Toast.LENGTH_LONG).show();
                }
            }
        });
    }
}

```

```

public void activity2() {
    Intent intent = new Intent(this, Activity2.class);
    intent.putExtra("username", usr.getText().toString());
    intent.putExtra("password", pwd.getText().toString());
    startActivity(intent);
}
}

```

Activity2.java file code

```

public class Activity2 extends AppCompatActivity {

    TextView text;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_2);

        text = (TextView) findViewById(R.id.text);
        String s = "You login in this app, \n via Username - "+getIntent().getStringExtra("username")
+" \n and Password - "+getIntent().getStringExtra("password");
        text.setText(s.toString());
    }
}

```

Practical no. 10

Create simple Application which show the use of List view.

```

public class MainActivity extends AppCompatActivity {
    ListView lst;
    String subjects[] = {"Data Structure", "Android", "Java", "C/C++", "Python",
".Net", "HTML", "PHP", "CSS", "JavaScript"};

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        lst = (ListView) findViewById(R.id.list);
        ArrayAdapter<String> arr = new ArrayAdapter<String>(this,
androidx.appcompat.R.layout.support_simple_spinner_dropdown_item, subjects);
        lst.setAdapter(arr);

        lst.setOnItemClickListener(listclick);
    }
    AdapterView.OnItemClickListener listclick = new
AdapterView.OnItemClickListener() {
        @Override
        public void onItemClick(AdapterView<?> adapterView, View view, int i,
long l) {
            String itemvalue = (String) lst.getItemAtPosition(i);
            Toast.makeText(getApplicationContext(), itemvalue.toString(),
Toast.LENGTH_LONG).show();

```

```

    }
};
}

```

Practical no. 11

Create simple Application which show the use of Radio button, take 3 radio button. When radio button is selected we have to show the text of radio button using Toast.

```

public class MainActivity extends AppCompatActivity {
    RadioGroup rg;
    RadioButton rb;
    Button btn;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        rg = (RadioGroup) findViewById(R.id.radio);
        btn = (Button) findViewById(R.id.button);
        btn.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                int out = rg.getCheckedRadioButtonId();
                if (out != -1) {
                    rb = findViewById(out);
                    String text = "Selected Subject is -
"+rb.getText().toString();
                    Toast.makeText(getApplicationContext(), text,
Toast.LENGTH_LONG).show();
                }
                else {
                    Toast.makeText(getApplicationContext(), "No Subject
Selected", Toast.LENGTH_LONG).show();
                }
            }
        });
    }
}

```

Practical no. 12

Create simple Application which show the use of Checkbox component, take 3 checkbox and 1 button when you check the checkboxes and click on button then you have to show which checkbox is check with text of checkbox using Toast

```

public class MainActivity extends AppCompatActivity {
    CheckBox cri, hoc, foot;
    Button btn;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
    }
}

```



```

        cri = (CheckBox) findViewById(R.id.first);
        hoc = (CheckBox) findViewById(R.id.sec);
        foot = (CheckBox) findViewById(R.id.third);
        btn = (Button) findViewById(R.id.submit);

        btn.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                StringBuilder result = new StringBuilder();
                result.append("You Favorite Sports are - ");
                if (cri.isChecked()) {
                    result.append("\n Cricket");
                }
                if (hoc.isChecked()) {
                    result.append("\n Hockey");
                }
                if (foot.isChecked()) {
                    result.append("\n Football");
                }
                Toast.makeText(MainActivity.this, result,
                    Toast.LENGTH_SHORT).show();
            }
        });
    }
}

```

Practical no. 13

Create simple Application which show the use of CheckBox component, take 3 checkbox when you check the checkboxes then you have to show which checkbox is check with text of checkbox using Toast.

```

public class MainActivity extends AppCompatActivity {

    CheckBox c1, c2, c3;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
    }

    public void onCheckboxClicked(View view) {
        c1 = (CheckBox) findViewById(R.id.checkbox1);
        c2 = (CheckBox) findViewById(R.id.checkbox2);
        c3 = (CheckBox) findViewById(R.id.checkbox3);

        StringBuilder result = new StringBuilder();
        result.append("Checked Box are - ");
        if (c1.isChecked()) {
            result.append("\n CheckBox 1");
        }
        if (c2.isChecked()) {
            result.append("\n CheckBox 2");
        }
        if (c3.isChecked()) {
            result.append("\n CheckBox 3");
        }
    }
}

```

```

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

```

Practical no. 14

Create simple Application which shows the use of WebView.

```

public class MainActivity extends AppCompatActivity {
    WebView webview;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        webview = (WebView) findViewById(R.id.webview);
        webview.setWebViewClient(new WebViewClient());
        webview.loadUrl("https://google.co.in");
    }
}

```

Practical no. 15

Create simple Application which shows the use of SeekBar.

```

public class MainActivity extends AppCompatActivity {

    TextView text;
    ProgressBar progressbar;
    SeekBar seekbar;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        text = (TextView) findViewById(R.id.textview);
        progressbar = (ProgressBar) findViewById(R.id.progressbar);
        seekbar = (SeekBar) findViewById(R.id.seekbar);

        seekbar.setOnSeekBarChangeListener(new SeekBar.OnSeekBarChangeListener()
        {
            @Override
            public void onProgressChanged(SeekBar seekBar, int i, boolean b) {
                progressbar.setProgress(i);
                text.setText(""+ i + "%");
            }

            @Override
            public void onStartTrackingTouch(SeekBar seekBar) {

            }

            @Override
            public void onStopTrackingTouch(SeekBar seekBar) {

```

```

    }
    });
}

```

Practical no. 16
Create simple Application which shows the use of RatingBar.

```

public class MainActivity extends AppCompatActivity {

    RatingBar rating;
    Button button;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        rating = (RatingBar) findViewById(R.id.ratingbar);
        button = (Button) findViewById(R.id.button);

        button.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                String s = String.valueOf(rating.getRating());
                Toast.makeText(getApplicationContext(), s+" Star",
Toast.LENGTH_LONG).show();
            }
        });
    }
}

```

Practical no. 17
Create simple Application which shows the use of Alert Dialog.

```

public class MainActivity extends AppCompatActivity {

    Button btn;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        btn = (Button) findViewById(R.id.button);
        btn.setOnClickListener(view -> {
            AlertDialog.Builder builder = new
AlertDialog.Builder(MainActivity.this);
            builder.setMessage("Click Yes, to close this Application");
            builder.setTitle("Alert Box");
            builder.setCancelable(false);
            builder.setPositiveButton("Yes", new
DialogInterface.OnClickListener() {
                @Override
                public void onClick(DialogInterface dialogInterface, int i) {
                    finish();
                }
            });
        });
    }
}

```

```

        builder.setNegativeButton("No", ((dialog, which) ->
dialog.cancel()));
        builder.show();
    });
}
}

```

Practical no. 18

Create simple Application which shows the use of TimePicker.

```

public class MainActivity extends AppCompatActivity {

    Button btn;
    TextView text;
    TimePicker timePicker;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        btn = (Button) findViewById(R.id.button);
        text = (TextView) findViewById(R.id.textview);
        timePicker = (TimePicker) findViewById(R.id.timepicker);
        text.setText(gettime());
        btn.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                text.setText(gettime());
            }
        });
    }
}

public class MainActivity extends AppCompatActivity {

    Button btn;
    TextView text;
    TimePicker timePicker;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        btn = (Button) findViewById(R.id.button);
        text = (TextView) findViewById(R.id.textview);
        timePicker = (TimePicker) findViewById(R.id.timepicker);
        text.setText(gettime());
        btn.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                text.setText(gettime());
            }
        });
    }

    public String gettime() {
        String time = "Current Time is - " + timePicker.getCurrentHour()
+ ":" + timePicker.getCurrentMinute();
        return time;
    }
}

    public String gettime() {
        String time = "Current Time is - " + timePicker.getCurrentHour()
+ ":" + timePicker.getCurrentMinute();
    }
}

```

```

        return time;
    }
}

```

Practical no. 19
Create simple Application which shows the use of DatePicker.

```

public class MainActivity extends AppCompatActivity {

    DatePicker datePicker;
    TextView text;
    Button btn;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        datePicker = (DatePicker) findViewById(R.id.datepicker);
        text = (TextView) findViewById(R.id.textview);
        btn = (Button) findViewById(R.id.button);

        text.setText(getdate());

        btn.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                text.setText(getdate());
            }
        });
    }
    public String getdate() {
        String date = "Today's Date is - " + datePicker.getDayOfMonth()
        + "/" + datePicker.getMonth() + "/" + datePicker.getYear();
        return date;
    }
}

```

Practical no. 20
Create simple Application which shows the use of ImageView.

```

public class MainActivity extends AppCompatActivity {

    ImageView image;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        image = (ImageView) findViewById(R.id.imageView);
        image.setImageResource(R.drawable.aman);
    }
}

```

}