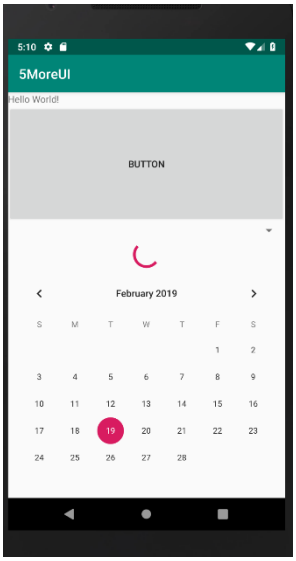
LAB 1

T1. Asenna ympäristö, T2. Opettele ympäristö, T3. HelloWorld App

T4. Study following object oriented concepts

1. Object
2. Class
3. Instantiation of object (creating an object)
4. Visibility (public / private / protected)
5. Member datas / methods
6. Inheritance
7. Interface
8. Polymorphism
9. Overriding
10. Abstract classes



T5. More UI

Pieni esimerkki UI:ssä käytettävistä komponenteista..

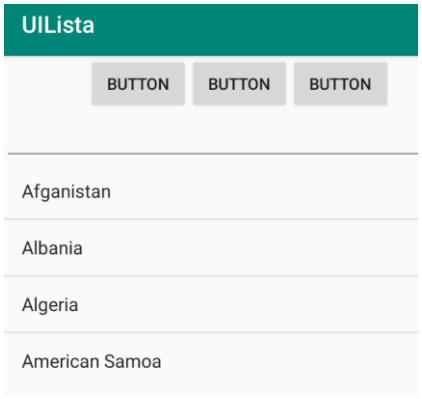
T6. Study Android fundamental concepts

1. What programming languages you can use for Android app development?
2. What is .apk file?
3. How Android system runs apps?
4. Name four types of Android components. Describe each.
5. What is manifest file and what is its purpose?
6. What are resources? Why they are needed?

LAB 2

T1. UILista

Taulukko, ListView, ArrayAdapter. Painikkeiden toiminnallisus myöhemmin tehtävässä 4.



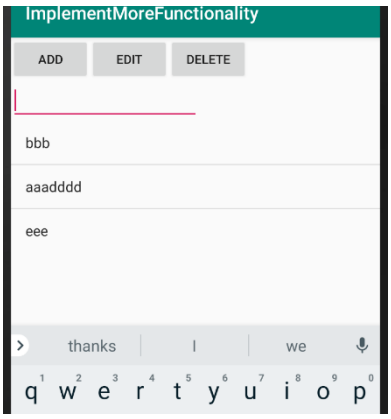
T2. UI Big Button

Kasvattaa lukumäärää painallusten mukaan.

T3. UI without layout

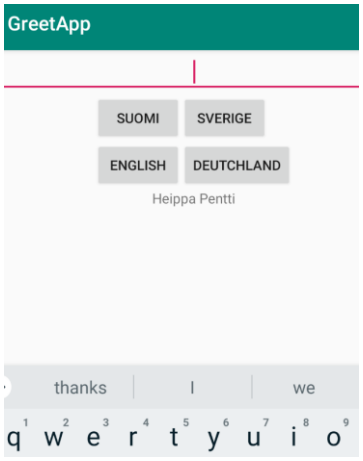
T4. UI

Listan käsittelyä: Listaan voi lisätä rivin, muokata olemassa olevaa riviä tai poistaa rivin.



T5. Greet App

Sovellus tervehtii halutulla kielellä.



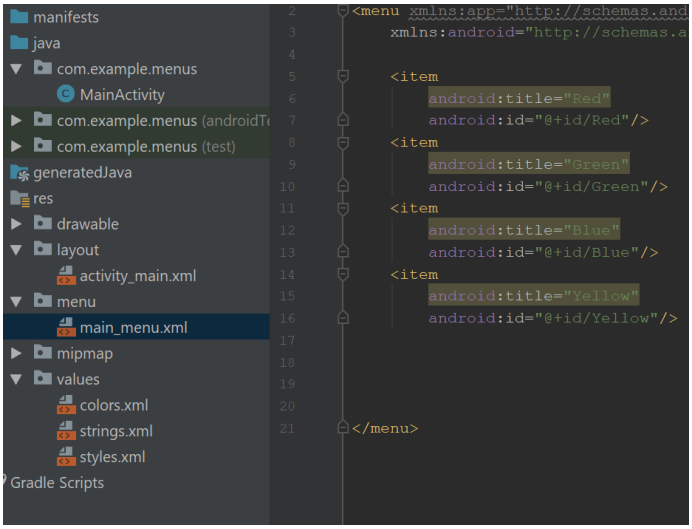

```
        findViewById(R.id.button7).setOnClickListener(this);
        findViewById(R.id.button8).setOnClickListener(this);
    }

    public String haeteksti(){
        String teksti = editText.getText().toString();

        return teksti;
    }
    @Override
    public void onClick(View view) {
        if(view.getId() == R.id.button5){
            //Suomeksi
            textView.setText("Heippa " + haeteksti());
            editText.setText(null);
        }
        else if(view.getId() == R.id.button6){
```

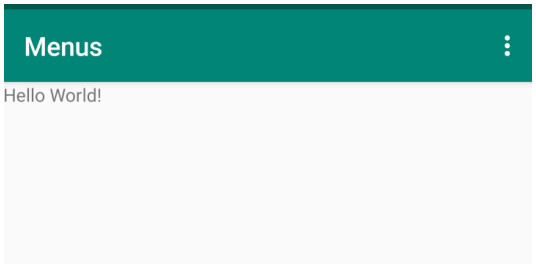
LAB 3

T1. Menu

Tehtävä johdatteli menu-valikon käyttöön.

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

@Override
public boolean onOptionsItemSelected(MenuItem item) {
    super.onOptionsItemSelected(item);
    View view = findViewById(R.id.mylinearlayout);
    View root = view.getRootView();
    TextView teksti = (TextView) findViewById(R.id.tekstikentta);

    if(item.getItemId() == R.id.Red){
        root.setBackgroundColor(Color.RED);
        teksti.setText("RED");
    }
    else if(item.getItemId() == R.id.Green){
        root.setBackgroundColor(Color.GREEN);
        teksti.setText("GREEN");
    }
    else if(item.getItemId() == R.id.Blue){
        root.setBackgroundColor(Color.BLUE);
        teksti.setText("BLUE");
    }
    else if(item.getItemId() == R.id.Yellow){
        root.setBackgroundColor(Color.YELLOW);
        teksti.setText("YELLOW");
    }

    return true;
}
```





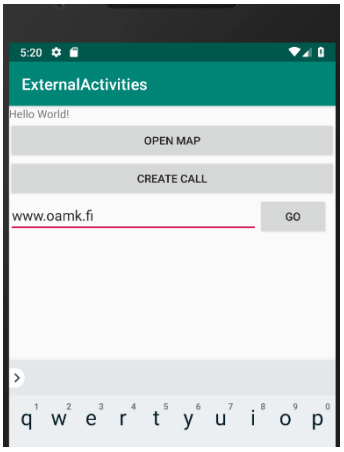
T2. External Activities

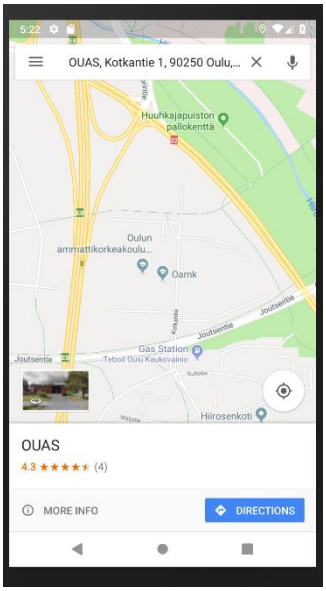
Kolme toimintoa: Open Map avaa Google Mapsin,

Create Call puhelin sovelluksen ja edit text-ruutuun

voi syöttää urlin, joka avataan selaimella.

```
button.setOnClickListener((v) -> {
        String url = "https://www.google.fi/maps/place/Oamk/@64.9994848,25.5096
        Intent intent = new Intent(Intent.ACTION_VIEW);
        intent.setData(Uri.parse(url));
        startActivity(intent);
});
button2.setOnClickListener((v) -> {
        Uri number = Uri.parse("tel:5551234");
        Intent callIntent = new Intent(Intent.ACTION_DIAL, number);
        startActivity(callIntent);
});
button3.setOnClickListener((v) -> {

        String url2 = "http://";
        url2 = url2+editText.getText().toString();
        Uri webpage = Uri.parse(url2);
        Intent webintent = new Intent(Intent.ACTION_VIEW, webpage);
        startActivity(webintent);
```



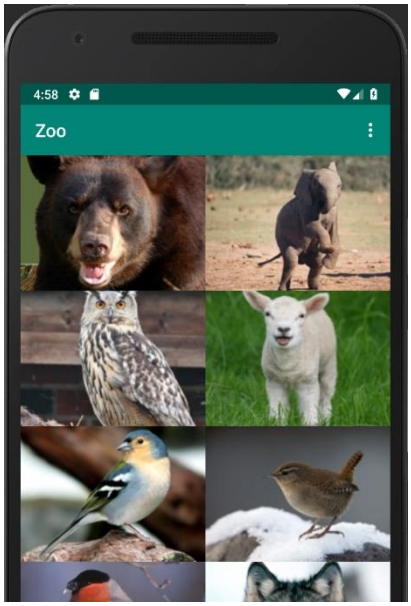


T3. Zoo

Sovellus käyttää MediaPlayer -luokkaa. Äänet tallennettu

raw-kansioon ja kuvat drawable-kansioon.

```
public boolean onTouch(View v, MotionEvent event) {
    if(v.getId() == R.id.mammal1){
        mediaPlayer = MediaPlayer.create( context: this, R.raw.bear);
        mediaPlayer.start();
    }
    else if(v.getId() == R.id.mammal2){
        mediaPlayer = MediaPlayer.create( context: this, R.raw.elephant);
        mediaPlayer.start();
    }
    else if(v.getId() == R.id.mammal3){
        mediaPlayer = MediaPlayer.create( context: this, R.raw.lamb);
        mediaPlayer.start();
    }
```

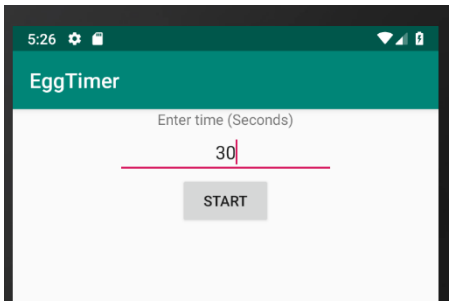


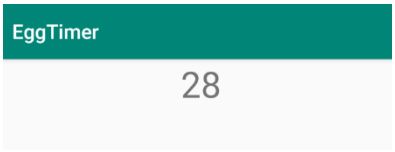
T4. EggTimer

Ajasin. Syötetty aika intent-extrana ajastimelle.

```
button.setOnClickListener((v) -> {
        String aika = editText.getText().toString();
        Intent intent = new Intent( packageContext: MainActivity.this, AjastinActivity.class);
        intent.putExtra( name: "aika", aika);
        startActivity(intent);

});
```

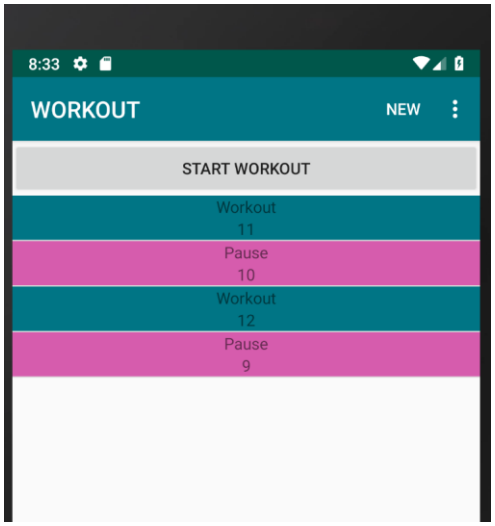
```
CountDownTimer countDownTimer = new CountDownTimer(time,  countDownInterval: 1000) {
    @Override
    public void onTick(long millisUntilFinished) {
        textView.setText("" + millisUntilFinished/1000);
    }

    @Override
    public void onFinish() {

        textView.setText("Done!");
        Intent intent = new Intent( packageContext: AjastinActivity.this, MainActivity.class);
        startActivity(intent);
    }
}.start();
```

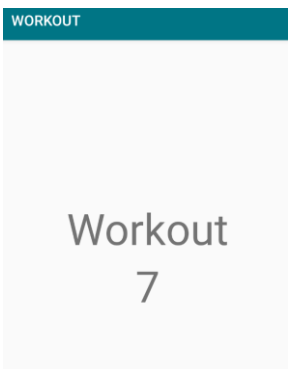


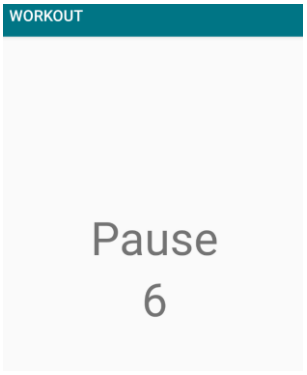


LAB 4 ja LAB 5 (T1)

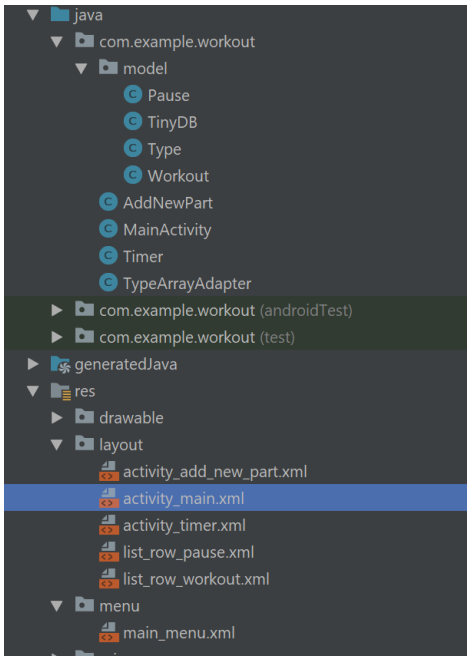
Treenisovellus, johon voi lisätä suoritettavan toimenpiteen ja keston. Starttia painamalla treenin voi aloittaa. Valikosta löytyy myös tallenna ja tyhjennä napit. Tallennusnäppäin tallentaa treenin puhelimen muistiin. Tämä treenisovellus tuntee vain kaksi toimenpidettä: ”workout” ja ”pause”. Näiden yläluokka tunnetaan ohjelmassa nimeltä ”Type”.

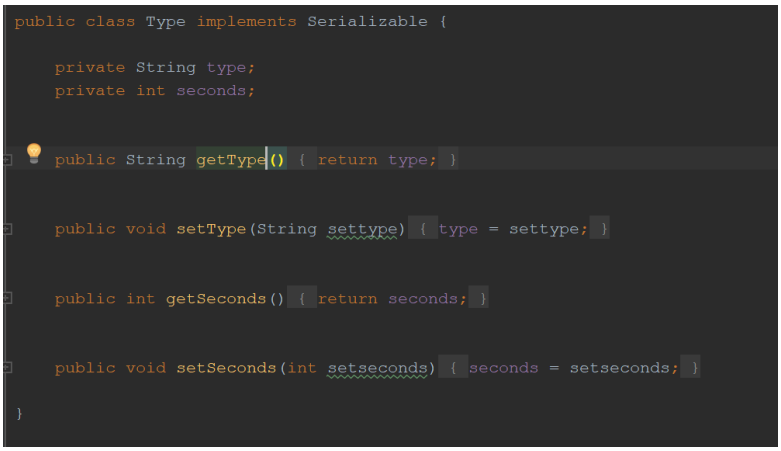


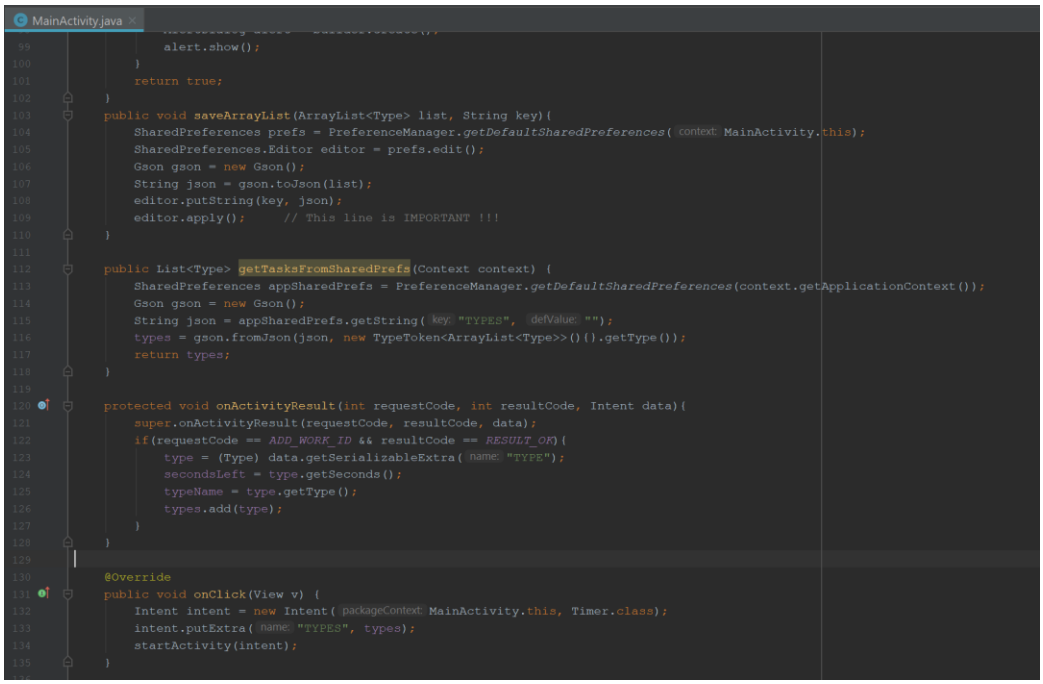




AlertDialog: positive and negative buttons



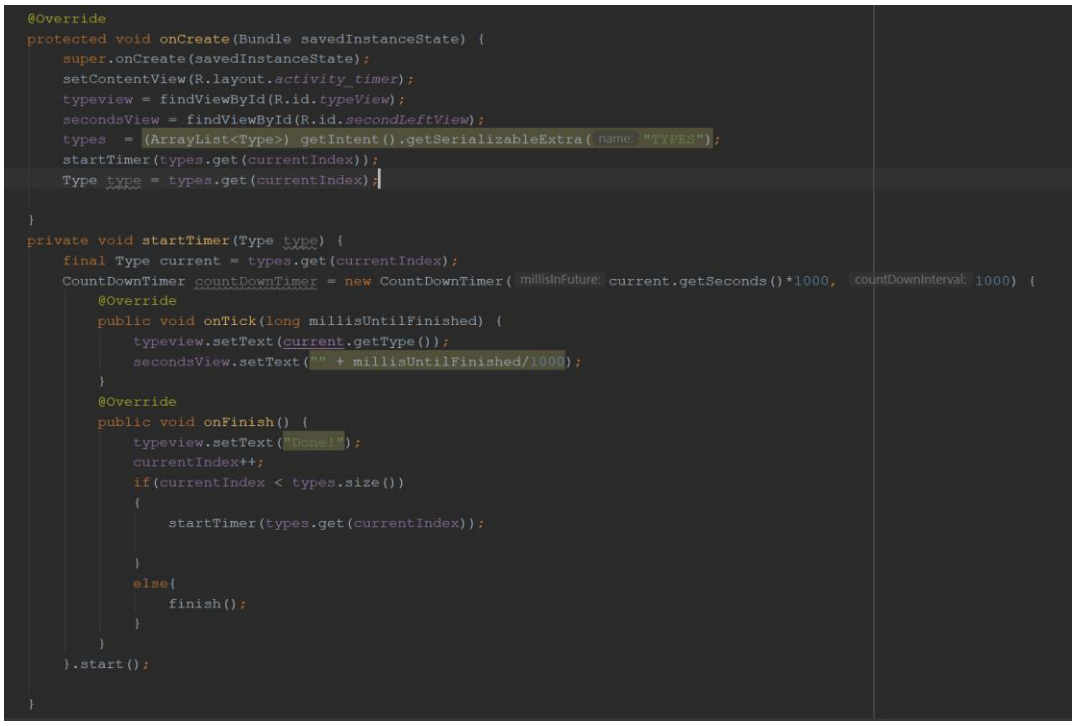




Pätkä MainActivityn tärkeimmistä

```
public class AddNewPart extends AppCompatActivity{

    RadioGroup radioGroup;
    EditText editText;
    Button button;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_add_new_part);
        radioGroup = findViewById(R.id.radiobuttongroup);
        editText =findViewById(R.id.editSeconds);
        button = findViewById(R.id.btnAdd);

        button.setOnClickListener((v) -> {
                int seconds = Integer.parseInt(editText.getText().toString());
                if(radioGroup.getCheckedRadioButtonId() == findViewById(R.id.radiobtnwork).getId()){
                    Workout workout = new Workout();
                    workout.setType("Workout");
                    workout.setSeconds(seconds);
                    returnData(workout);
                }
                else {
                    Pause pause = new Pause();
                    pause.setType("Pause");
                    pause.setSeconds(seconds);
                    returnData(pause);


                }
        });
    }
    private void returnData(Type data){
        Intent returnIntent = new Intent();
        returnIntent.putExtra( name: "TYPE", data);
        setResult(Activity.RESULT_OK, returnIntent);
        finish();
    }
```

Add new -toiminto



```
@Override
protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_timer);
    typeview = findViewById(R.id.typeView);
    secondsView = findViewById(R.id.secondLeftView);
    types  = (ArrayList<Type>) getIntent().getSerializableExtra( name: "TYPES");
    startTimer(types.get(currentIndex));
    Type type = types.get(currentIndex);

}
private void startTimer(Type type) {
    final Type current = types.get(currentIndex);
    CountDownTimer countDownTimer = new CountDownTimer( millisInFuture: current.getSeconds()*1000,  countDownInterval: 1000) {
        @Override
        public void onTick(long millisUntilFinished) {
            typeview.setText(current.getType());
            secondsView.setText("" + millisUntilFinished/1000);
        }
        @Override
        public void onFinish() {
            typeview.setText("Done!");
            currentIndex++;
            if(currentIndex < types.size())
            {
                startTimer(types.get(currentIndex));

            }
            else{
                finish();
            }
        }
    }.start();

}
```

Toiminnallisuus näkymälle, kun treeni on käynnissä.