Embedded System Practice : kotlin

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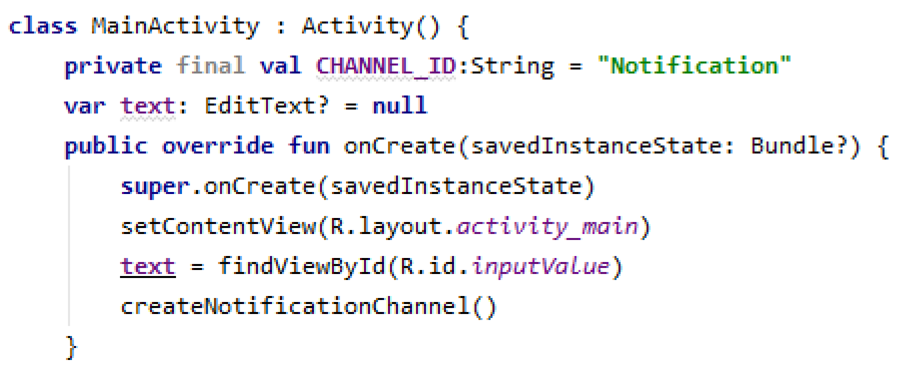
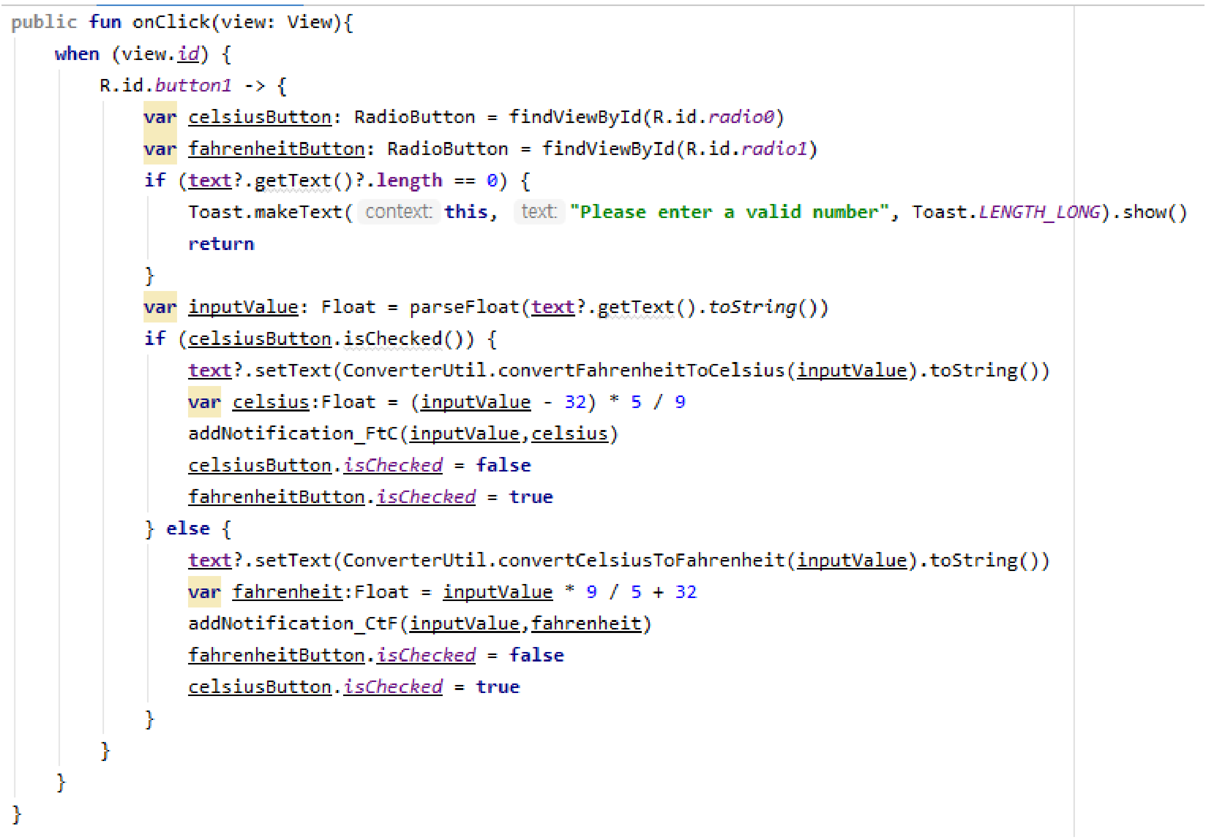


```
class MainActivity : Activity() {
    private final val CHANNEL_ID:String = "Notification"
    var text: EditText? = null
    public override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_main)
        text = findViewById(R.id.inputValue)
        createNotificationChannel()
    }
```

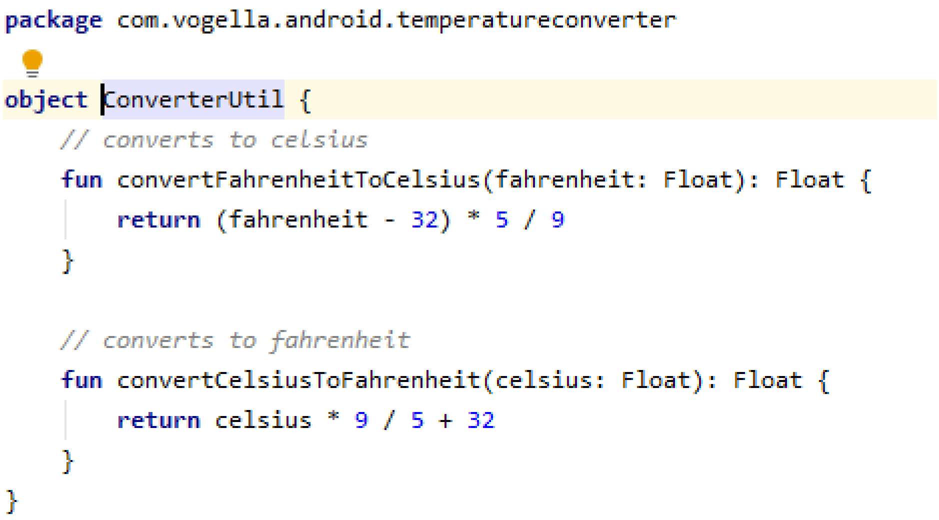
이번 실습에 Layout 및 String Resource는 지난 코드 그대로 사용하였습니다.

위와 같은 onCreate method를 kotlin으로 작성해주었습니다.



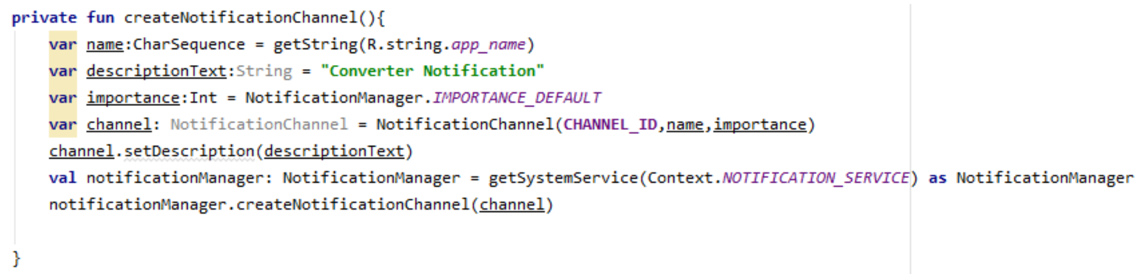
```
public fun onClick(view: View){
    when (view.id) {
        R.id.button1 -> {
            var celsiusButton: RadioButton = findViewById(R.id.radio0)
            var fahrenheitButton: RadioButton = findViewById(R.id.radio1)
            if (text?.getText()?.length == 0) {
                Toast.makeText( context: this,  text: "Please enter a valid number", Toast.LENGTH_LONG).show()
                return
            }
            var inputValue: Float = parseFloat(text?.getText().toString())
            if (celsiusButton.isChecked()) {
                text?.setText(ConverterUtil.convertFahrenheitToCelsius(inputValue).toString())
                var celsius:Float = (inputValue - 32) * 5 / 9
                addNotification_FtC(inputValue,celsius)
                celsiusButton.isChecked = false
                fahrenheitButton.isChecked = true
            } else {
                text?.setText(ConverterUtil.convertCelsiusToFahrenheit(inputValue).toString())
                var fahrenheit:Float = inputValue * 9 / 5 + 32
                addNotification_CtF(inputValue,fahrenheit)
                fahrenheitButton.isChecked = false
                celsiusButton.isChecked = true
            }
        }
    }
}
```

위와 같이 지난 실습에 사용한 코드들을 kotlin으로 작성해주었습니다. 또한 Notification을 위한 addNotification 2종류를 만들었습니다.

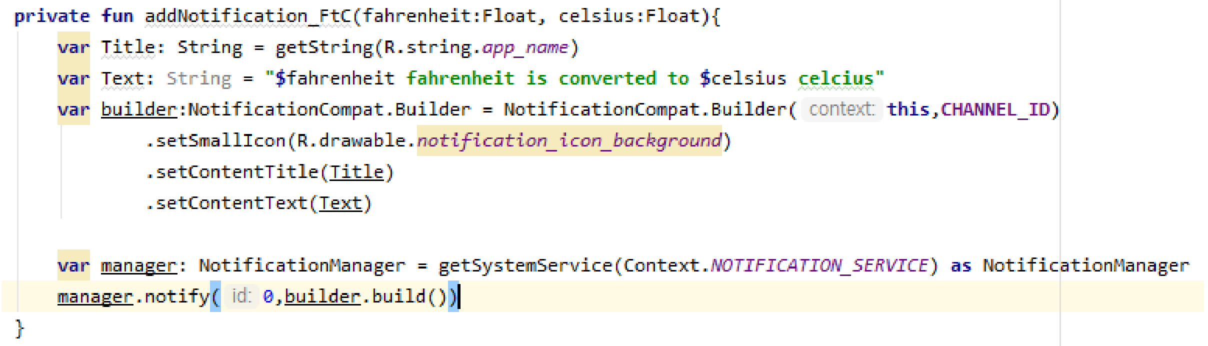


```kotlin
package com.vogella.android.temperatureconverter

object ConverterUtil {
    // converts to celsius
    fun convertFahrenheitToCelsius(fahrenheit: Float): Float {
        return (fahrenheit - 32) * 5 / 9
    }

    // converts to fahrenheit
    fun convertCelsiusToFahrenheit(celsius: Float): Float {
        return celsius * 9 / 5 + 32
    }
}
```

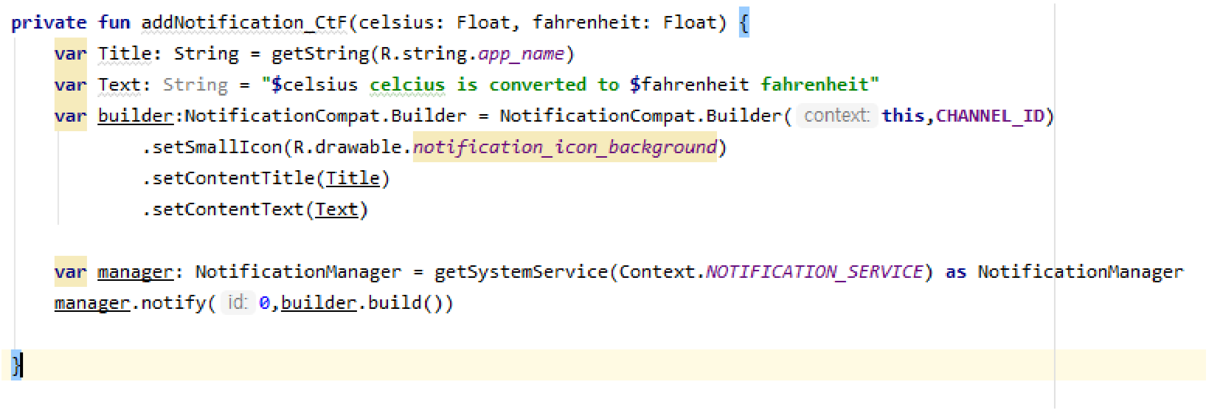
위와 같이 ConverterUtil 함수 또한 Kotiln으로 변환해 주었습니다.



```kotlin
private fun createNotificationChannel(){
    var name:CharSequence = getString(R.string.app_name)
    var descriptionText:String = "Converter Notification"
    var importance:Int = NotificationManager.IMPORTANCE_DEFAULT
    var channel: NotificationChannel = NotificationChannel(CHANNEL_ID,name,importance)
    channel.setDescription(descriptionText)
    val notificationManager: NotificationManager = getSystemService(Context.NOTIFICATION_SERVICE) as NotificationManager
    notificationManager.createNotificationChannel(channel)

}
```

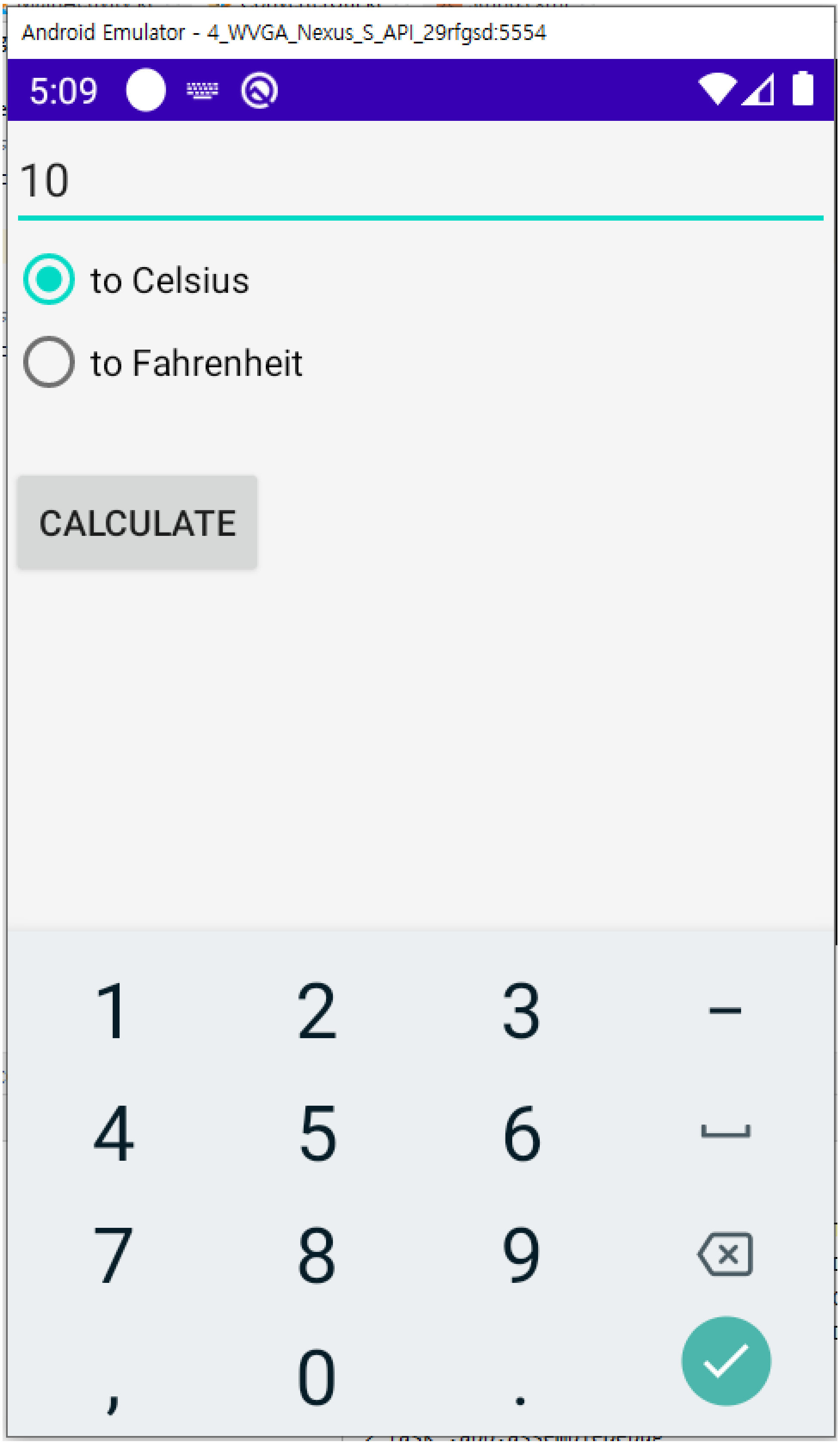


```kotlin
private fun addNotification_FtC(fahrenheit:Float, celsius:Float){
    var Title: String = getString(R.string.app_name)
    var Text: String = "$fahrenheit fahrenheit is converted to $celsius celcius"
    var builder:NotificationCompat.Builder = NotificationCompat.Builder( context: this,CHANNEL_ID)
        .setSmallIcon(R.drawable.notification_icon_background)
        .setContentTitle(Title)
        .setContentText(Text)

    var manager: NotificationManager = getSystemService(Context.NOTIFICATION_SERVICE) as NotificationManager
    manager.notify( id: 0,builder.build())
}
```



```kotlin
private fun addNotification_CtF(celsius: Float, fahrenheit: Float) {
    var Title: String = getString(R.string.app_name)
    var Text: String = "$celsius celcius is converted to $fahrenheit fahrenheit"
    var builder:NotificationCompat.Builder = NotificationCompat.Builder( context: this,CHANNEL_ID)
        .setSmallIcon(R.drawable.notification_icon_background)
        .setContentTitle(Title)
        .setContentText(Text)

    var manager: NotificationManager = getSystemService(Context.NOTIFICATION_SERVICE) as NotificationManager
    manager.notify( id: 0,builder.build())

}
```

위는 Kotiln으로 작성한 Createnotification및 두 종류의 addnotification입니다. 각 상황에 맞는 Title과 text를 띄울 수 있게 해 주었습니다.

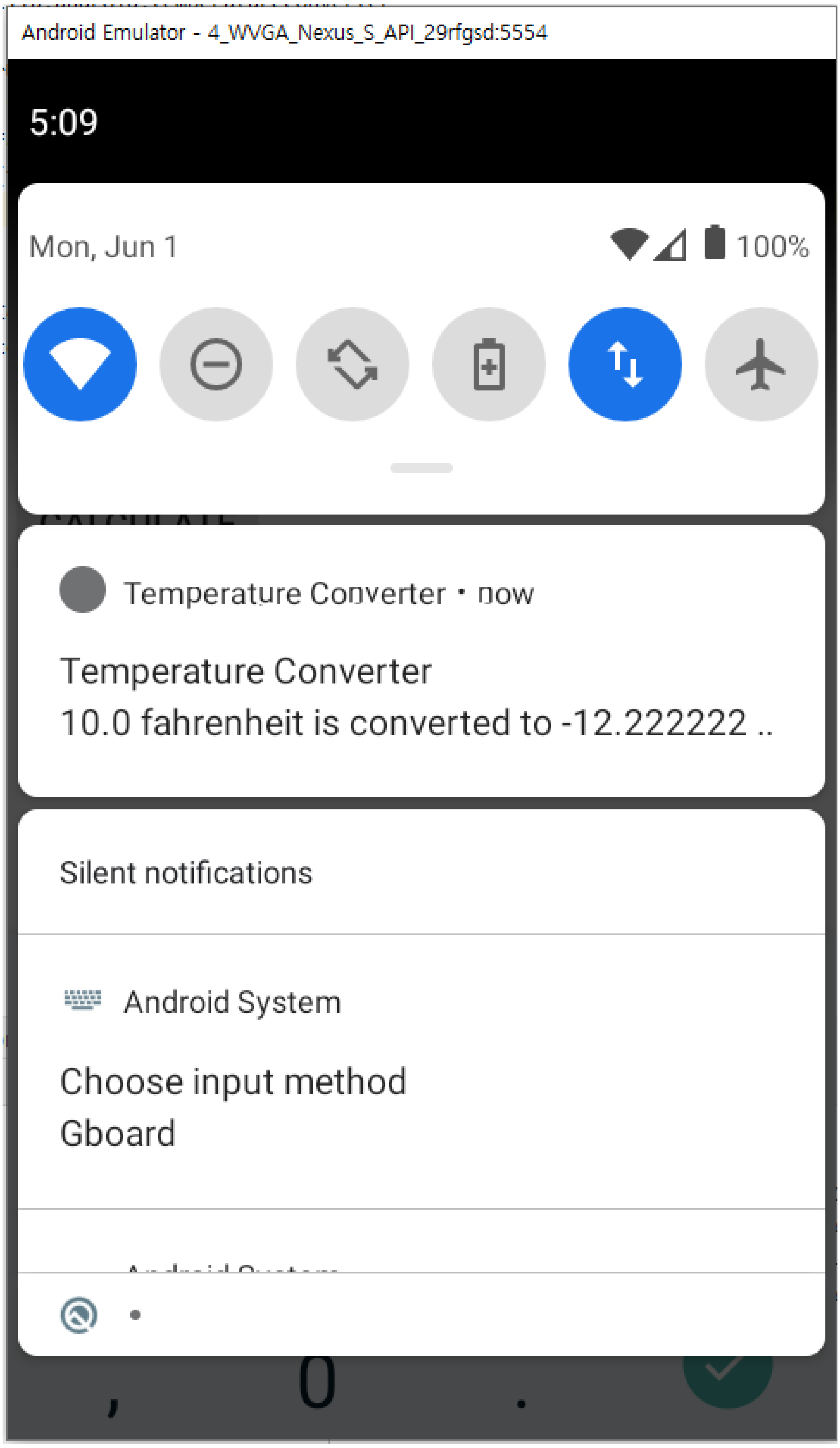


Android Emulator - 4_WVGA_Nexus_S_API_29rfgsd:5554

10

● to Celsius

○ to Fahrenheit



Android Emulator - 4_WVGA_Nexus_S_API_29rfgsd:5554

5:09

Mon, Jun 1 100%

Temperature Converter • now

Temperature Converter
10.0 fahrenheit is converted to -12.222222 ..

Silent notifications

Android System

Choose input method
Gboard

위는 오늘 실습의 실행 화면입니다.