

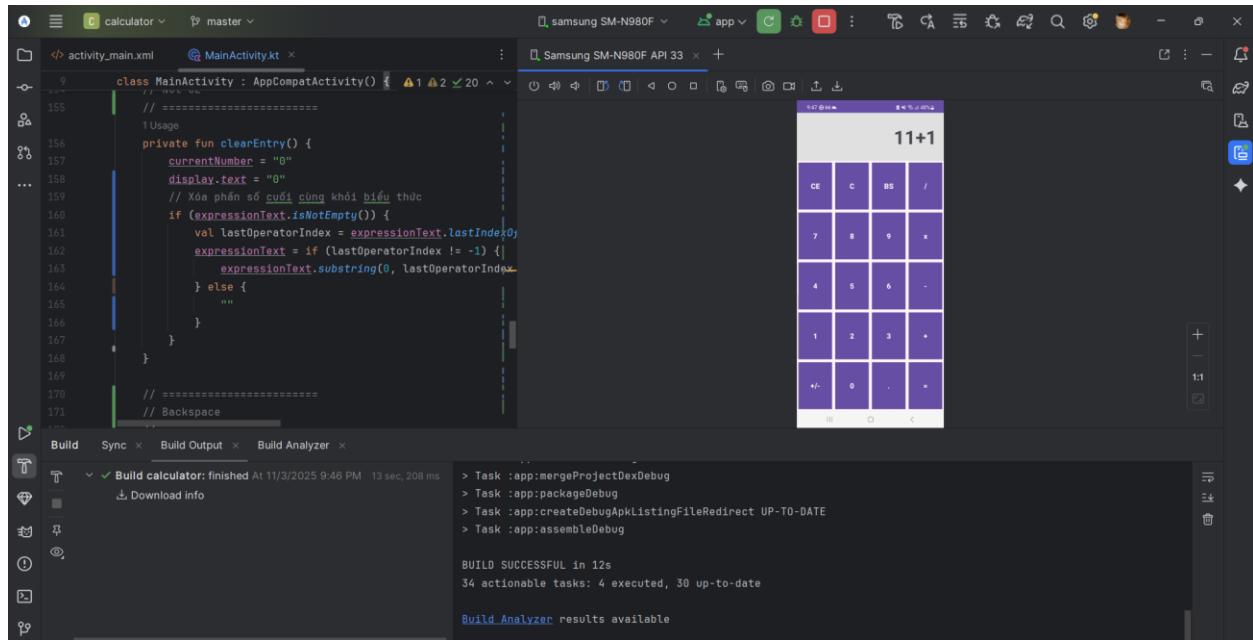
Demo bài tập Android 3.11

Trần Khánh Quỳnh – 20225762

Bài 1: Calculator

Phép cộng:

- Nhập vào phép cộng



- Hiển thị kết quả khi ấn dấu bằng:

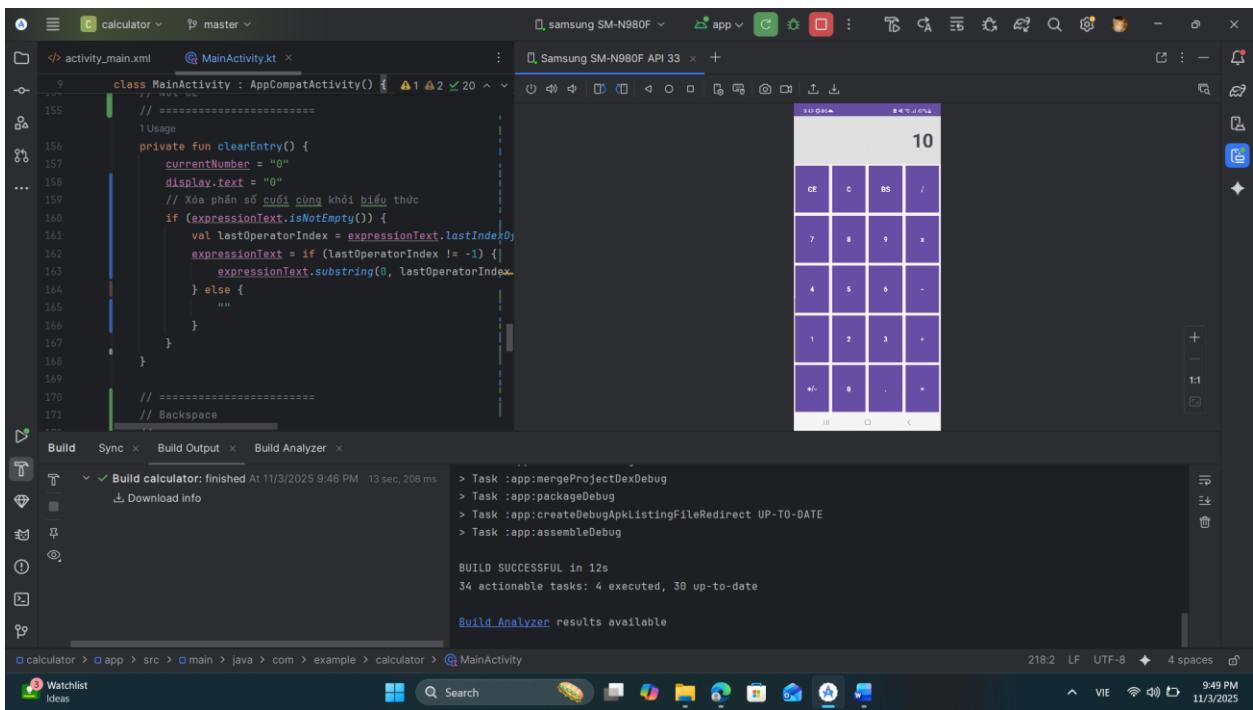
The screenshot shows the Android Studio interface with the calculator project open. The left pane displays the `MainActivity.kt` file, which contains Java code for a calculator. The right pane shows a Samsung SM-N980F API 33 emulator displaying the calculator application. The calculator has a numeric keypad and basic arithmetic operators (+, -, ×, ÷). The bottom status bar shows the date as Wednesday, the time as 9:48 PM, and the build status as "calculator: finished" at 11/3/2025 9:46 PM.

Phép trừ:

- Nhập vào phép trừ:

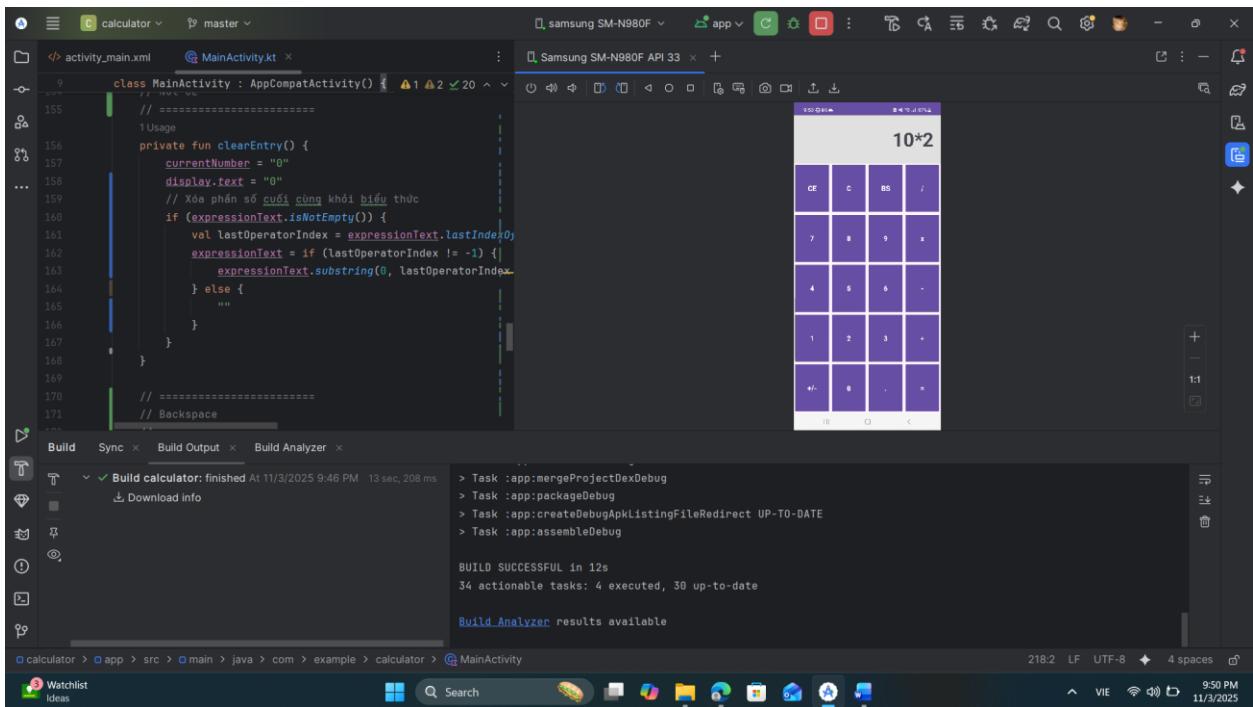
The screenshot shows the Android Studio interface with the calculator project open. The left pane displays the `MainActivity.kt` file, which contains Java code for a calculator. The right pane shows a Samsung SM-N980F API 33 emulator displaying the calculator application. The calculator has a numeric keypad and basic arithmetic operators (+, -, ×, ÷). The bottom status bar shows the date as Wednesday, the time as 9:49 PM, and the build status as "calculator: finished" at 11/3/2025 9:46 PM.

- Hiển thị kết quả khi ấn dấu =:



Phép nhân:

- Nhập vào phép nhân:



- Hiển thị kết quả khi ấn dấu =:

```

class MainActivity : AppCompatActivity() {
    // =====
    1 Usage
    private fun clearEntry() {
        currentNumber = "0"
        displayText = "0"
        // Xóa phần số cuối cùng khỏi biểu thức
        if (expressionText.isNotEmpty()) {
            val lastOperatorIndex = expressionText.lastIndexOf(" ")
            expressionText = if (lastOperatorIndex != -1) {
                expressionText.substring(0, lastOperatorIndex)
            } else {
                ""
            }
        }
    }
    // =====
    // Backspace
}

```

Build Sync Build Output Build Analyzer

Build calculator: finished At 11/3/2025 9:46 PM 13 sec, 208 ms

> Task :app:mergeProjectDexDebug
> Task :app:packageDebug
> Task :app:createDebugApkListingFileRedirect UP-TO-DATE
> Task :app:assembleDebug

BUILD SUCCESSFUL in 12s
34 actionable tasks: 4 executed, 30 up-to-date

Build Analyzer results available

Phép chia:

- Nhập vào phép chia:

```

class MainActivity : AppCompatActivity() {
    // =====
    1 Usage
    private fun setupNumberButtons() {
        val numberButtons = mapOf(
            R.id.button28 to "7", R.id.button29 to "8", R.id.button30 to "9",
            R.id.button32 to "4", R.id.button33 to "5", R.id.button34 to "6",
            R.id.button36 to "1", R.id.button37 to "2", R.id.button38 to "3",
            R.id.button41 to "0"
        )
        for ((id, number) in numberButtons) {
            findViewById<Button>(id).setOnClickListener { onNumberPressed(number) }
        }
    }
    // =====
    // Nút toán tử + - * /
    // =====
    1 Usage
    private fun setupOperatorButtons() {
}

```

Build Sync Build Output Build Analyzer

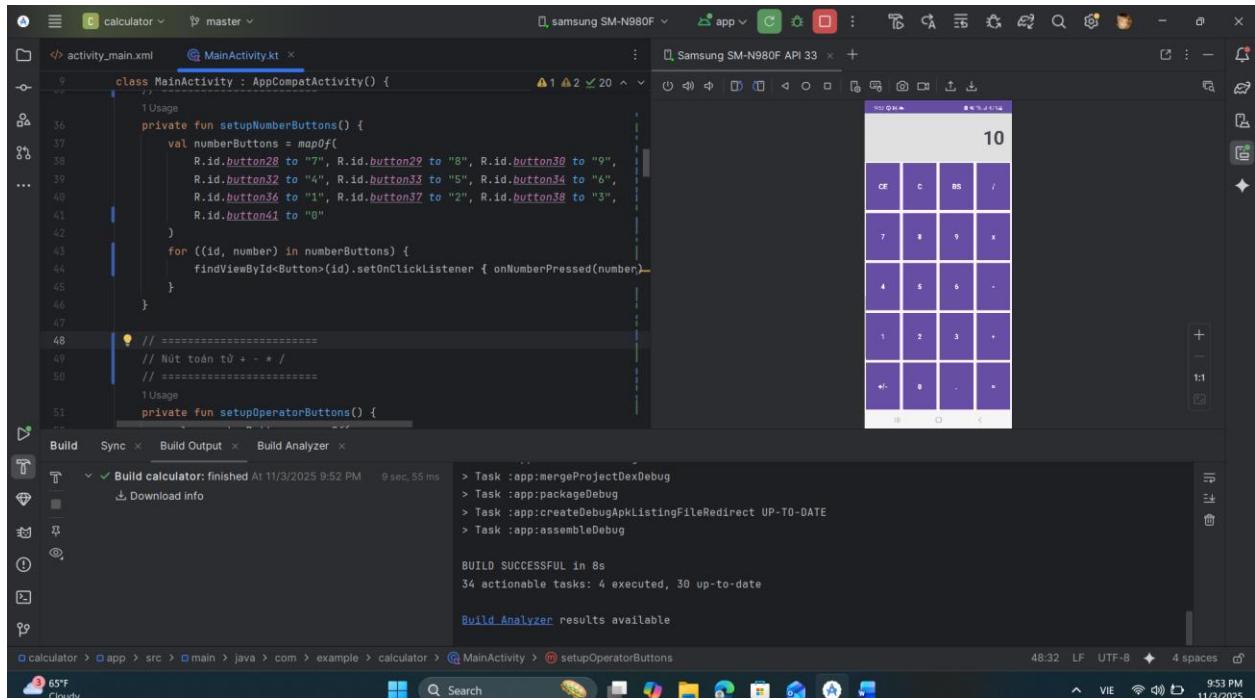
Build calculator: finished At 11/3/2025 9:52 PM 9 sec, 55 ms

> Task :app:mergeProjectDexDebug
> Task :app:packageDebug
> Task :app:createDebugApkListingFileRedirect UP-TO-DATE
> Task :app:assembleDebug

BUILD SUCCESSFUL in 8s
34 actionable tasks: 4 executed, 30 up-to-date

Build Analyzer results available

- Hiển thị kết quả:



The screenshot shows the Android Studio interface with the calculator project open. The code editor displays MainActivity.kt with the following code:

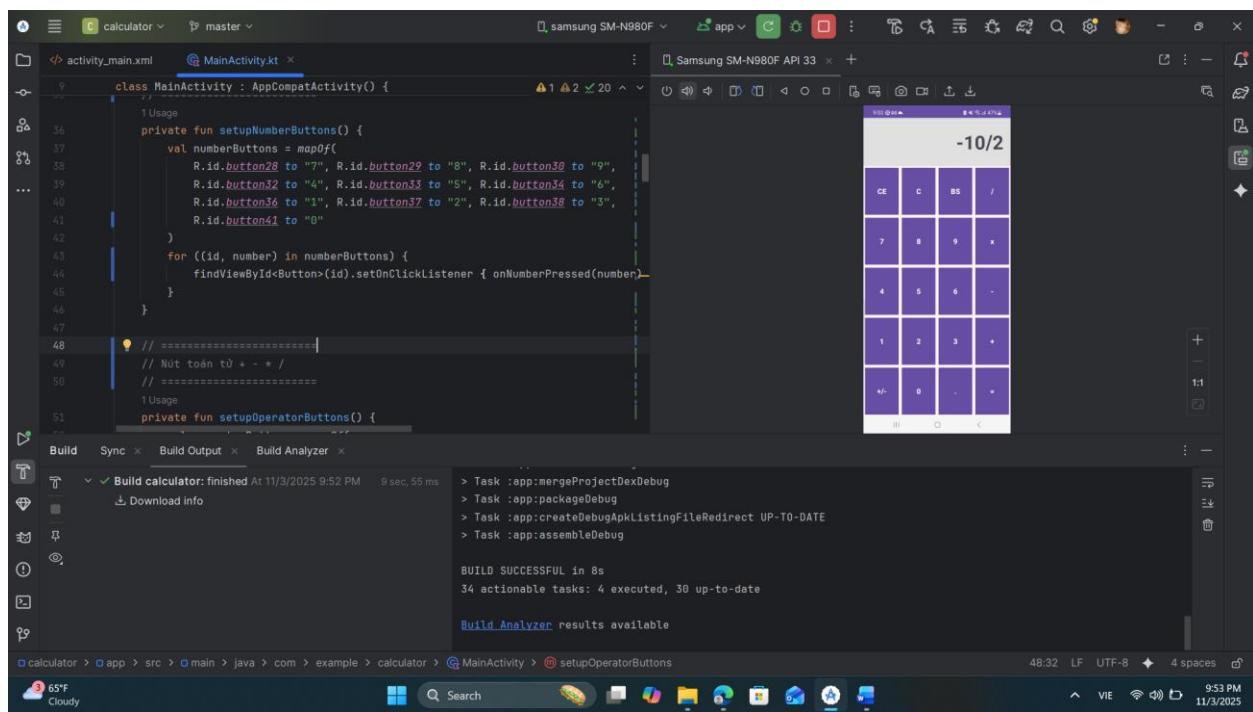
```
class MainActivity : AppCompatActivity() {  
    private fun setupNumberButtons() {  
        val numberButtons = mapOf(  
            R.id.button28 to "7", R.id.button29 to "8", R.id.button30 to "9",  
            R.id.button32 to "4", R.id.button33 to "5", R.id.button34 to "6",  
            R.id.button36 to "1", R.id.button37 to "2", R.id.button38 to "3",  
            R.id.button41 to "0"  
        )  
        for ((id, number) in numberButtons) {  
            findViewById<Button>(id).setOnClickListener { onNumberPressed(number)  
            }  
        }  
    }  
    // ======  
    // Nút toán t0 + - × /  
    // ======  
    private fun setupOperatorButtons() {  
    }  
}
```

The build output shows a successful build:

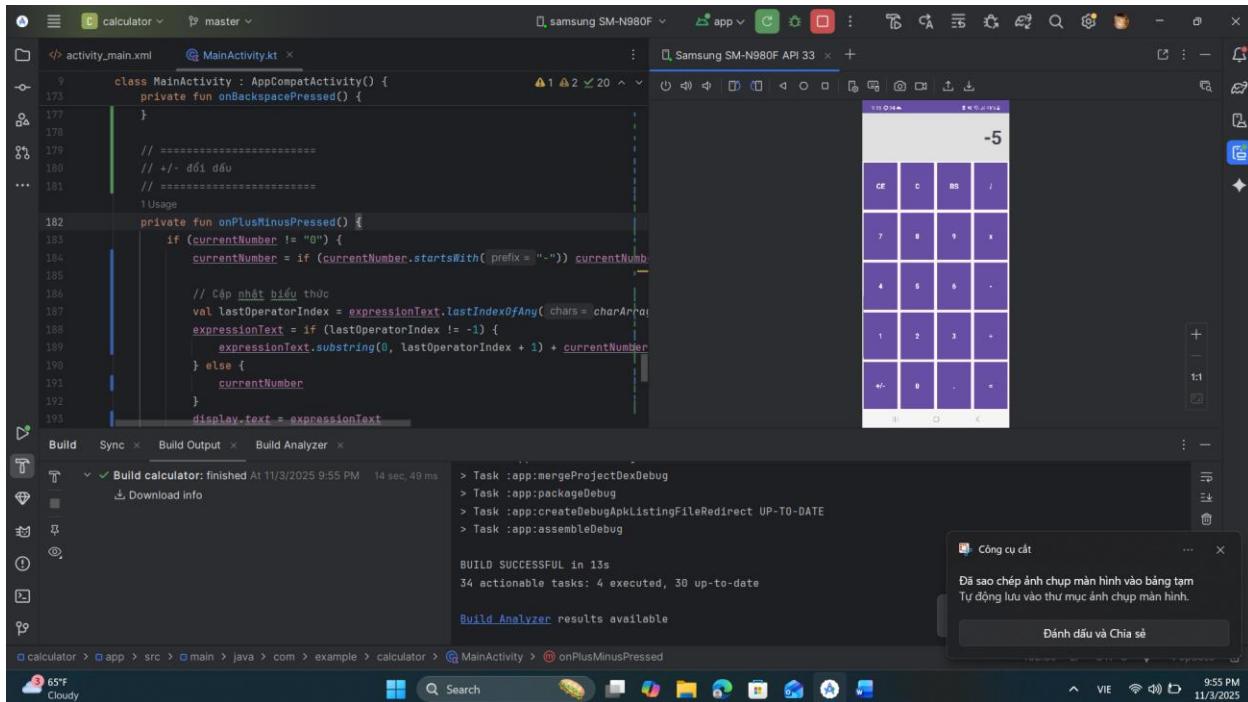
```
Build calculator: finished At 11/3/2025 9:52 PM 9 sec, 55 ms  
> Task :app:mergeProjectDexDebug  
> Task :app:packageDebug  
> Task :app:createDebugApkListingFileRedirect UP-TO-DATE  
> Task :app:assembleDebug  
  
BUILD SUCCESSFUL in 8s  
34 actionable tasks: 4 executed, 30 up-to-date
```

The status bar at the bottom of the screen shows the date and time as 9:53 PM on 11/3/2025.

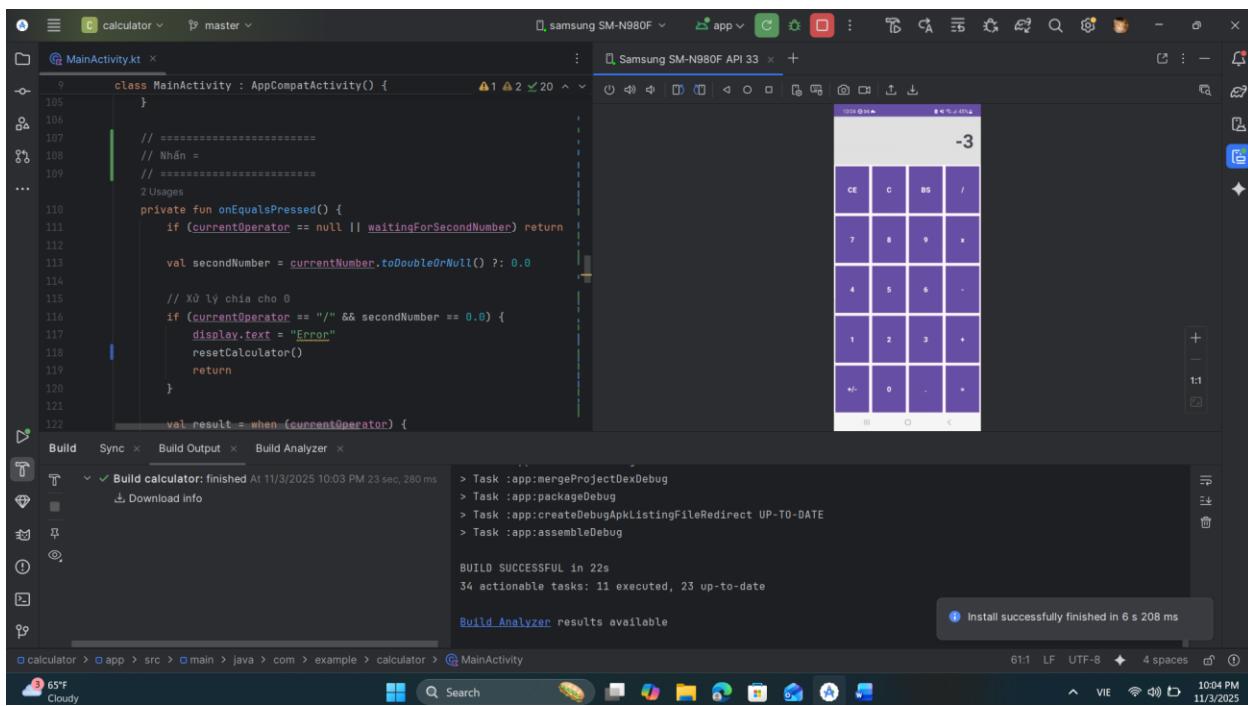
Thử với số nguyên âm:

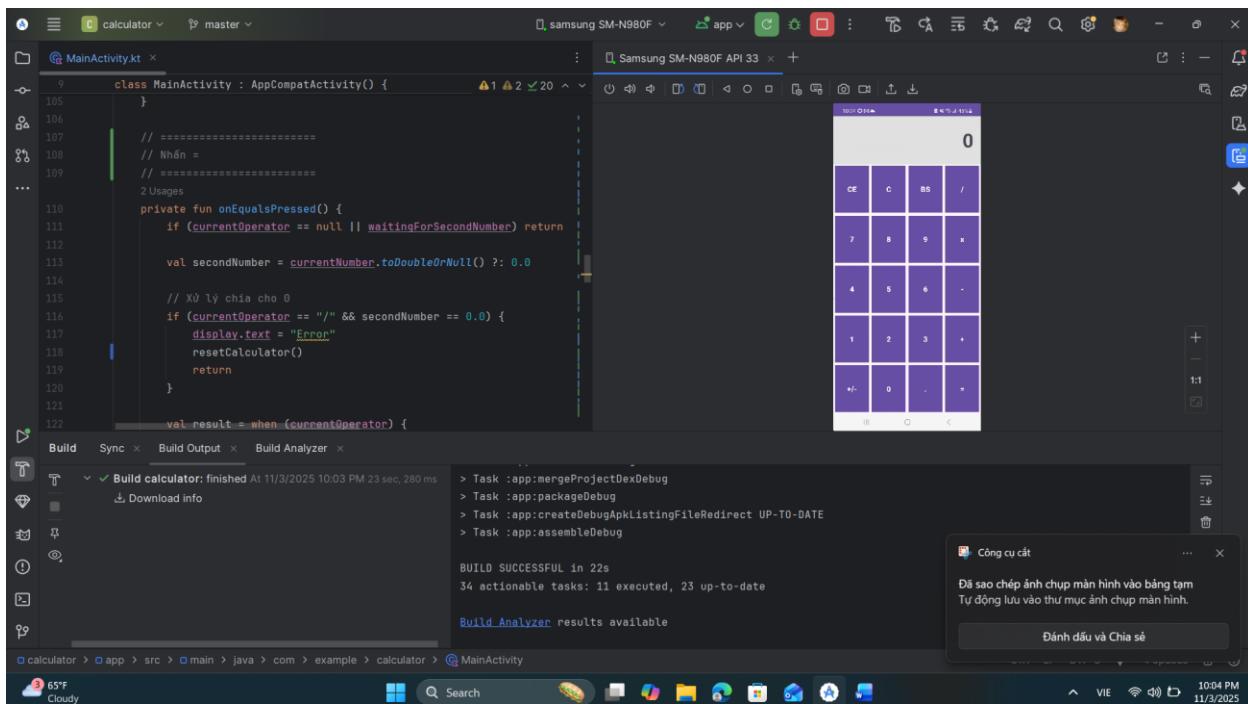


This screenshot is nearly identical to the one above, showing the Android Studio interface with the calculator project. The code editor and build output are the same. The difference is in the emulator's display, which now shows the result of the last operation: '-10/2'. The status bar at the bottom remains at 9:53 PM on 11/3/2025.

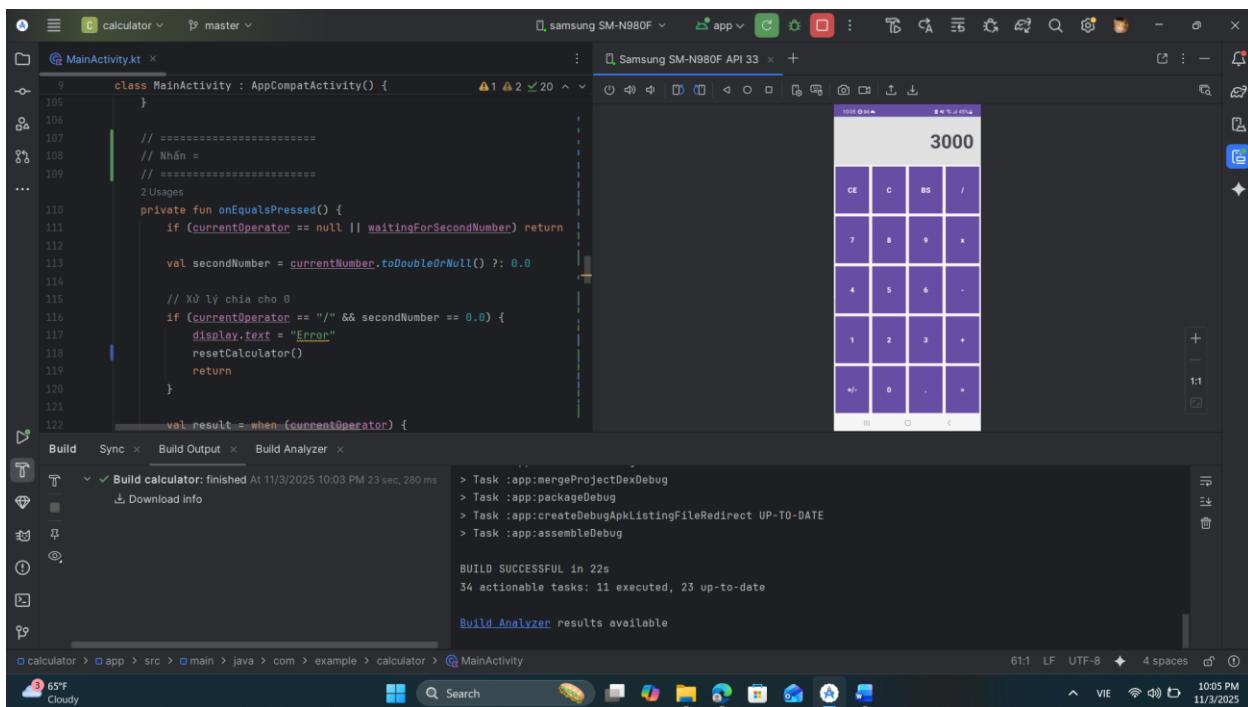


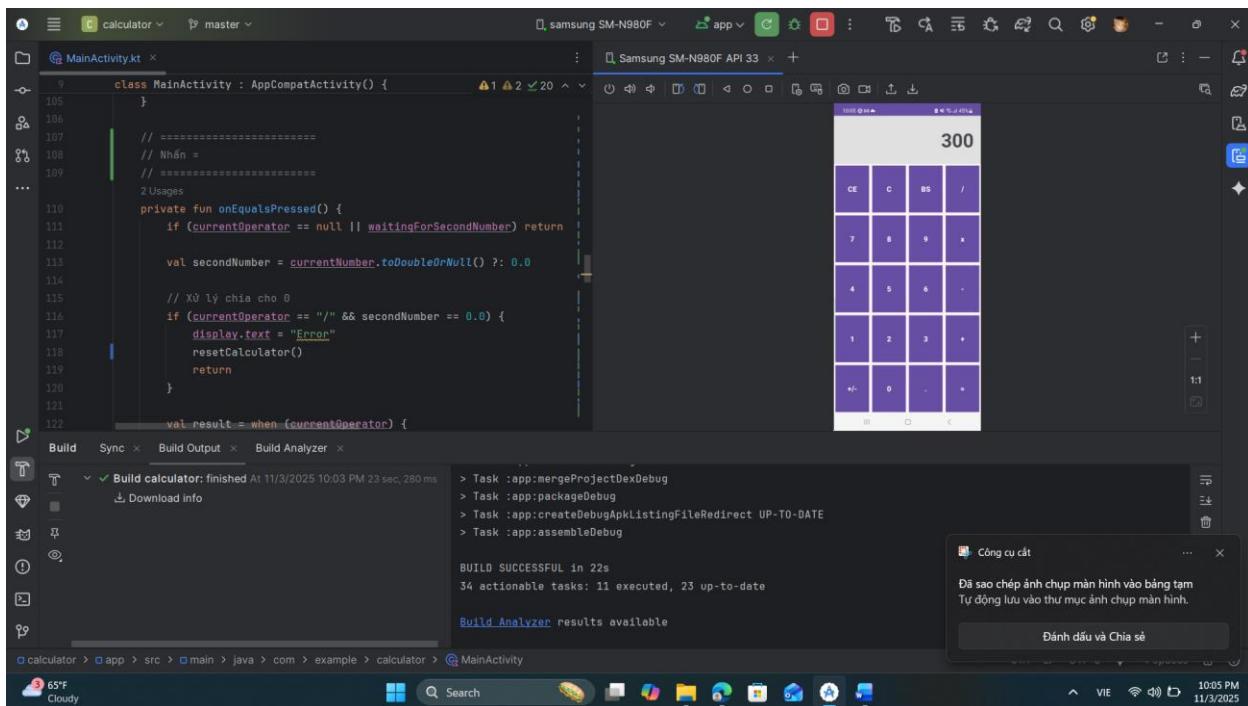
Nút CE (Xóa giá trị hiện tại về 0)



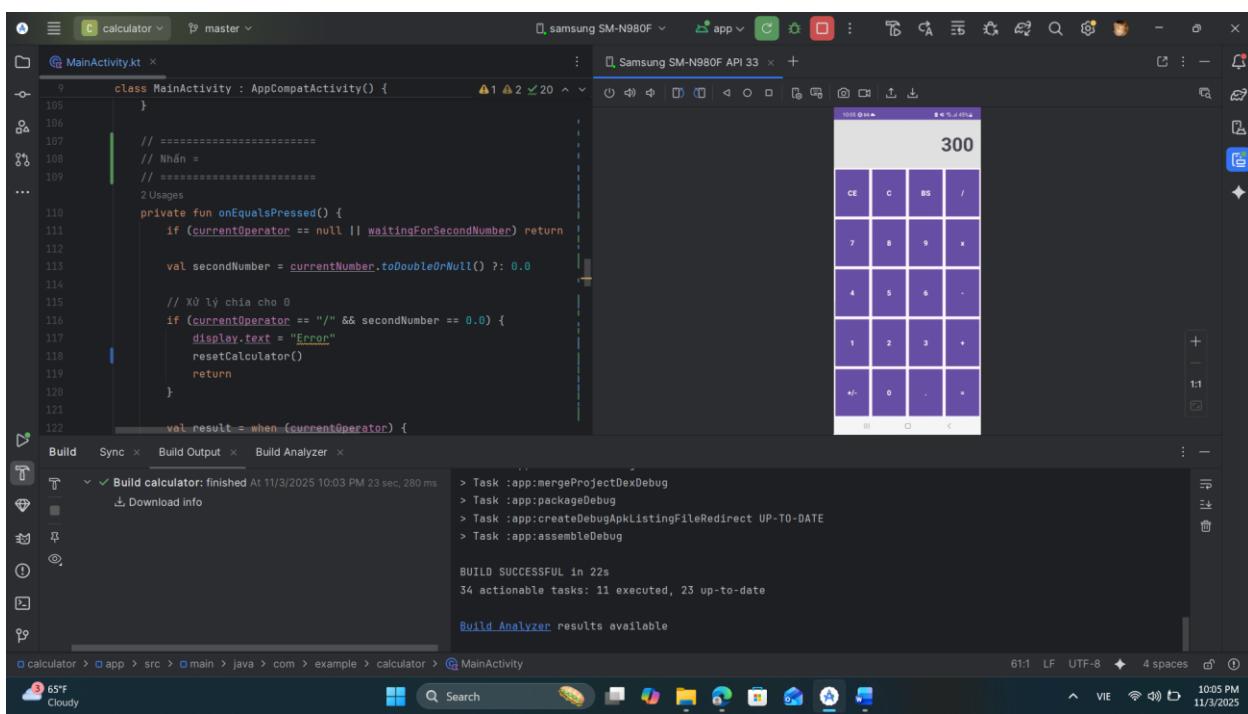


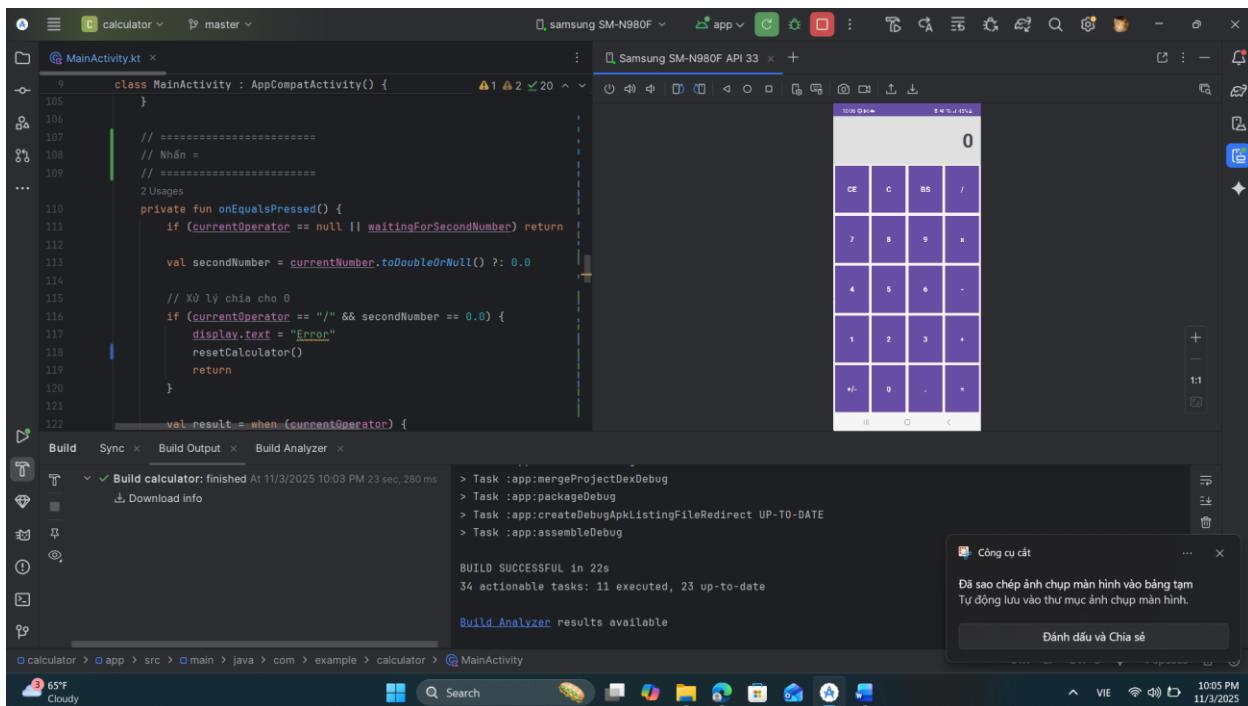
Nút BS:





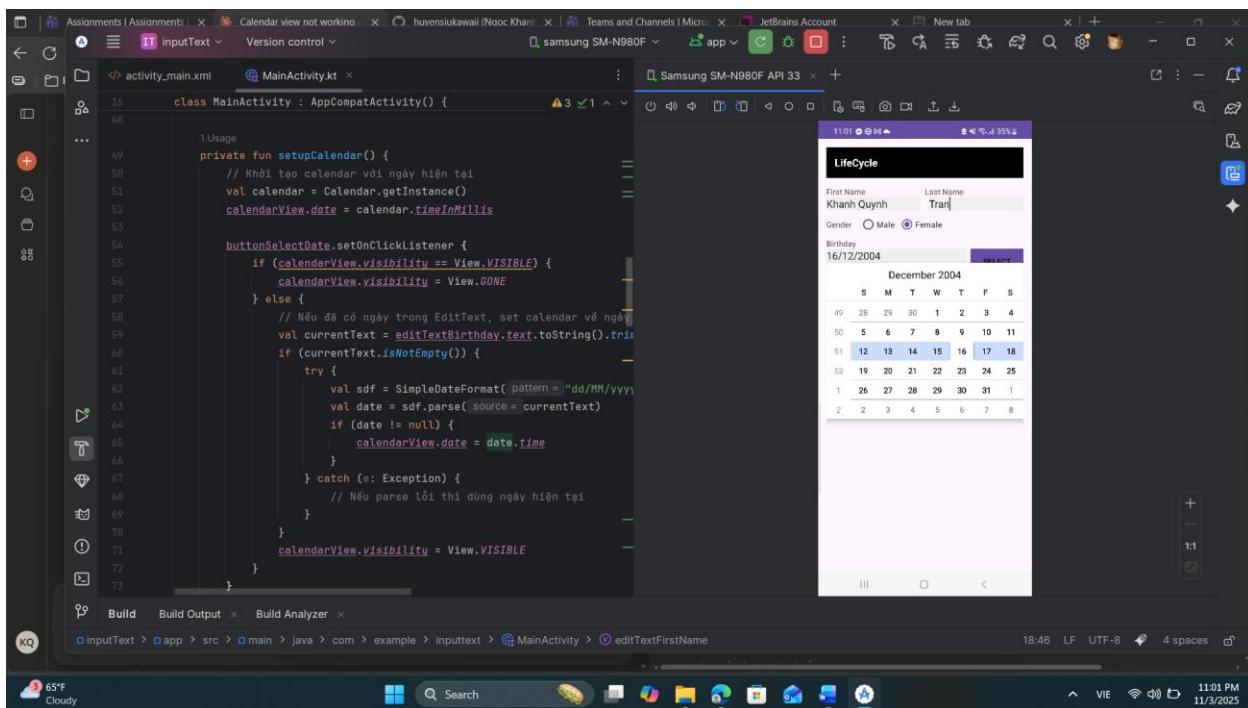
Nút C: reset máy tính:





Bài 2: Lập trình ứng dụng nhập dữ liệu.

-Widget CalendarView:



-Điền thông tin, nếu có thông tin chưa điền thì bôi màu đỏ:

```

16     class MainActivity : AppCompatActivity() {
17         override fun onCreate(savedInstanceState: Bundle?) {
18             super.onCreate(savedInstanceState)
19             setContentView(R.layout.activity_main)
20
21             // Usage
22             private fun setupCalendar() {
23                 buttonSelectDate.setOnClickListener {
24                     if (calendarView.visibility == View.VISIBLE) {
25                         calendarView.visibility = View.GONE
26                     } else {
27                         calendarView.visibility = View.VISIBLE
28                         calendarView.requestLayout()
29                     }
30                 }
31
32                 calendarView.setOnDateChangeListener { _, year, month, dayOfMonth ->
33                     val calendar = Calendar.getInstance()
34                     calendar.set(year, month, dayOfMonth)
35                     val sdf = SimpleDateFormat("dd/MM/yyyy", Locale.getDefault())
36                     val selectedDate = sdf.format(calendar.time)
37                     editTextBirthday.setText(selectedDate)
38                     resetFieldColor(editText = editTextBirthday)
39                     calendarView.visibility = View.GONE
40                 }
41             }
42
43             editTextFirstName.setOnFocusChangeListener { _, hasFocus ->
44                 if (hasFocus) {
45                     editTextFirstName.requestFocus()
46                     editTextLastName.requestFocus()
47                     editTextAddress.requestFocus()
48                     editTextEmail.requestFocus()
49                     editTextBirthday.requestFocus()
50                     editTextAgree.requestFocus()
51                 }
52             }
53
54             editTextAgree.setOnCheckedChangeListener { _, isChecked ->
55                 if (isChecked) {
56                     toast("Register successfully!")
57                 }
58             }
59         }
60     }

```

-Đăng kí thành công:

```

16     class MainActivity : AppCompatActivity() {
17         override fun onCreate(savedInstanceState: Bundle?) {
18             super.onCreate(savedInstanceState)
19             setContentView(R.layout.activity_main)
20
21             // Usage
22             private fun setupCalendar() {
23                 // Khi tao calendar voi ngay hien tai
24                 val calendar = Calendar.getInstance()
25                 calendarView.date = calendar.timeInMillis
26
27                 buttonSelectDate.setOnClickListener {
28                     if (calendarView.visibility == View.VISIBLE) {
29                         calendarView.visibility = View.GONE
30                     } else {
31                         // Neu da co ngay trong EditText, set calendar ve ngay
32                         val currentText = editTextBirthday.text.toString().trim()
33                         if (currentText.isNotEmpty()) {
34                             try {
35                                 val sdf = SimpleDateFormat("dd/MM/yyyy")
36                                 val date = sdf.parse(currentText)
37                                 if (date != null) {
38                                     calendarView.date = date.time
39                                 }
40                             } catch (e: Exception) {
41                                 // Neu parse loi thi dung ngay hien tai
42                             }
43                         }
44                         calendarView.visibility = View.VISIBLE
45                     }
46                 }
47             }
48
49             editTextFirstName.setOnFocusChangeListener { _, hasFocus ->
50                 if (hasFocus) {
51                     editTextFirstName.requestFocus()
52                     editTextLastName.requestFocus()
53                     editTextAddress.requestFocus()
54                     editTextEmail.requestFocus()
55                     editTextBirthday.requestFocus()
56                     editTextAgree.requestFocus()
57                 }
58             }
59
60             editTextAgree.setOnCheckedChangeListener { _, isChecked ->
61                 if (isChecked) {
62                     toast("Register successfully!")
63                 }
64             }
65
66             editTextAgree.setOnCheckedChangeListener { _, isChecked ->
67                 if (isChecked) {
68                     toast("Register successfully!")
69                 }
70             }
71
72         }
73     }

```