

Bài 1:

```
class MainActivity : AppCompatActivity() {  
    private lateinit var etDestination: EditText  
    private lateinit var spSourceCurrency: Spinner  
    private lateinit var spDestinationCurrency: Spinner  
    private var isSourceEditing = true  
    // Tí giá hối đổi  
    private val exchangeRates = mapOf(  
        "AUD" to 1.5073102244,  
        "BGN" to 1.8173203445,  
        "BRL" to 5.6864007021,  
        "CAD" to 1.3837008259,  
        "CHF" to 0.8647401653,  
        "CNY" to 7.1508312405,  
        "CZK" to 23.4180356881,  
        "DKK" to 6.9186009789,  
        "EUR" to 0.9275401034,  
        "GBP" to 0.7744301034,  
        "HKD" to 7.7671608009,  
        "HKD" to 6.5559609776,  
        "HUF" to 374.0299705356,  
        "IDR" to 15610.989426789  
    )
```

Bài 2

Số chẵn:

```
package com.example.list  
import android.os.Bundle  
import android.text.Editable  
import android.text.TextWatcher  
import android.view.View  
import android.widget.*  
import androidx.appcompat.app.AppCompatActivity  
2 Usages  
class MainActivity : AppCompatActivity() {  
    3 Usages  
    private lateinit var editTextNumber: EditText  
    5 Usages  
    private lateinit var radioGroupRow1: RadioGroup  
    8 Usages  
    private lateinit var radioGroupRow2: RadioGroup  
    3 Usages  
    private lateinit var radioEven: RadioButton  
    2 Usages  
    private lateinit var radioOdd: RadioButton  
    2 Usages  
    private lateinit var radioSquare: RadioButton  
    2 Usages  
    private lateinit var radioPrime: RadioButton  
    2 Usages  
    private lateinit var radioPerfect: RadioButton  
    2 Usages  
    private lateinit var radioFibonacci: RadioButton  
    5 Usages  
    private lateinit var listViewNumbers: ListView
```

Số lẻ:

The screenshot shows the Android Studio interface with the project structure on the left and the code editor on the right. The code editor displays the `MainActivity.kt` file, which contains the following code:

```
1 package com.example.list
2
3 import android.os.Bundle
4 import android.text.Editable
5 import android.text.TextWatcher
6 import android.view.View
7 import android.widget.*
8 import androidx.appcompat.app.AppCompatActivity
9
10 class MainActivity : AppCompatActivity() {
11
12     private lateinit var editTextNumber: EditText
13     private lateinit var radioGroupRow1: RadioGroup
14     private lateinit var radioGroupRow2: RadioGroup
15     private lateinit var radioEven: RadioButton
16     private lateinit var radioOdd: RadioButton
17     private lateinit var radioSquare: RadioButton
18     private lateinit var radioPrime: RadioButton
19     private lateinit var radioPerfect: RadioButton
20     private lateinit var radioFibonacci: RadioButton
21     private lateinit var listViewOddNumbers: ListView
22
23     override fun onCreate(savedInstanceState: Bundle?) {
24         super.onCreate(savedInstanceState)
25         setContentView(R.layout.activity_main)
26
27         editTextNumber = findViewById(R.id.editTextNumber)
28         editTextNumber.addTextChangedListener(object : TextWatcher {
29             override fun beforeTextChanged(s: String, start: Int, count: Int, after: Int) {}
30             override fun onTextChanged(s: String, start: Int, before: Int, count: Int) {}
31             override fun afterTextChanged(s: String) {
32                 val number = s.toIntOrNull()
33                 if (number != null) {
34                     checkNumberType(number)
35                 }
36             }
37         })
38
39         radioGroupRow1 = findViewById(R.id.radioGroupRow1)
40         radioGroupRow1.setOnCheckedChangeListener { group, checkedId ->
41             when (checkedId) {
42                 R.id.radioButtonEven -> radioEven.isChecked = true
43                 R.id.radioButtonOdd -> radioOdd.isChecked = true
44                 R.id.radioButtonSquare -> radioSquare.isChecked = true
45                 R.id.radioButtonPrime -> radioPrime.isChecked = true
46                 R.id.radioButtonPerfect -> radioPerfect.isChecked = true
47                 R.id.radioButtonFibonacci -> radioFibonacci.isChecked = true
48             }
49         }
50
51         radioGroupRow2 = findViewById(R.id.radioGroupRow2)
52         radioGroupRow2.setOnCheckedChangeListener { group, checkedId -
53             when (checkedId) {
54                 R.id.radioButtonChinhPhuong -> radioPerfect.isChecked = true
55                 R.id.radioButtonHoanHao -> radioFibonacci.isChecked = true
56                 R.id.radioButtonNguyenTo -> radioPrime.isChecked = true
57                 R.id.radioButtonHoanHoa -> radioSquare.isChecked = true
58                 R.id.radioButtonFibonacci -> radioFibonacci.isChecked = true
59             }
60         }
61
62         listViewOddNumbers = findViewById(R.id.listViewOddNumbers)
63     }
64
65     private fun checkNumberType(number: Int) {
66         val oddNumbersList = mutableListOf<String>()
67
68         if (radioEven.isChecked) {
69             oddNumbersList.add("Lẻ")
70         } else if (radioOdd.isChecked) {
71             oddNumbersList.add("Chẵn")
72         } else if (radioSquare.isChecked) {
73             oddNumbersList.add("Hai bình phương")
74         } else if (radioPrime.isChecked) {
75             oddNumbersList.add("Nguyên tố")
76         } else if (radioPerfect.isChecked) {
77             oddNumbersList.add("Hoàn hảo")
78         } else if (radioFibonacci.isChecked) {
79             oddNumbersList.add("Fibonacci")
80         }
81
82         listViewOddNumbers.adapter = ArrayAdapter(this, android.R.layout.simple_list_item_1, oddNumbersList)
83     }
84 }
```

The status bar at the bottom shows the date as 11/10/2025.

Số chính phương

The screenshot shows the Android Studio interface with the project structure on the left and the code editor on the right. The code editor displays the `MainActivity.kt` file, which contains the following code:

```
1 package com.example.list
2
3 import android.os.Bundle
4 import android.text.Editable
5 import android.text.TextWatcher
6 import android.view.View
7 import android.widget.*
8 import androidx.appcompat.app.AppCompatActivity
9
10 class MainActivity : AppCompatActivity() {
11
12     private lateinit var editTextNumber: EditText
13     private lateinit var numberList: ArrayList<Int>
14
15     override fun onCreate(savedInstanceState: Bundle?) {
16         super.onCreate(savedInstanceState)
17         setContentView(R.layout.activity_main)
18
19         editTextNumber = findViewById(R.id.editTextNumber)
20         editTextNumber.addTextChangedListener(object : TextWatcher {
21             override fun beforeTextChanged(s: String, start: Int, count: Int, after: Int) {}
22             override fun onTextChanged(s: String, start: Int, before: Int, count: Int) {}
23             override fun afterTextChanged(s: String) {
24                 val number = s.toIntOrNull()
25                 if (number != null) {
26                     addPerfectNumbers(number)
27                 }
28             }
29         })
30
31         numberList = ArrayList()
32
33         val textViewOddNumbers = findViewById(R.id.textViewOddNumbers)
34         textViewOddNumbers.text = "Số chính phương là: "
35
36         val listViewOddNumbers = findViewById(R.id.listViewOddNumbers)
37         listViewOddNumbers.adapter = ArrayAdapter(this, android.R.layout.simple_list_item_1, numberList)
38
39     }
40
41     private fun addPerfectNumbers(n: Int) {
42         for (i in 2..until(n)) {
43             if (isPerfect(i * i)) {
44                 numberList.add(i * i)
45             }
46         }
47     }
48
49     private fun isPerfect(n: Int): Boolean {
50         var a = 0
51         var b = 1
52         if (a < n) numberList.add(a)
53         if (b < n) numberList.add(b)
54         while (true) {
55             val next = a + b
56             if (next >= n) break
57             numberList.add(next)
58             a = b
59             b = next
60         }
61     }
62 }
```

The status bar at the bottom shows the date as 11/10/2025.

Số nguyên tố:

The screenshot shows the Android Studio interface with the code editor open to `MainActivity.kt`. The code defines a `MainActivity` class that extends `AppCompatActivity`. The code includes several private fields for `EditText`, `RadioGroup`, and `RadioButton` components. A callout box highlights the variable `radioEven` with the annotation `2 Usages`. The code editor's status bar at the bottom right shows the date as 11/10/2025.

```
1 package com.example.list
2
3 import android.os.Bundle
4 import android.text.Editable
5 import android.text.TextWatcher
6 import android.view.View
7 import android.widget.<*>
8 import androidx.appcompat.app.AppCompatActivity
9
10 class MainActivity : AppCompatActivity() {
11
12     private lateinit var editTextNumber: EditText
13     private lateinit var radioGroupRow1: RadioGroup
14     private lateinit var radioEven: RadioButton
15     private lateinit var radioOdd: RadioButton
16     private lateinit var radioSquare: RadioButton
17     private lateinit var radioPrime: RadioButton
18     private lateinit var radioPerfect: RadioButton
19     private lateinit var radioFibonacci: RadioButton
20     private lateinit var listViewNumbers: ListView
21 }
```

Số hoàn hảo:

The screenshot shows the Android Studio interface with the code editor open to `MainActivity.kt`. The code defines a `MainActivity` class that extends `AppCompatActivity`. The code includes several private fields for `EditText`, `RadioGroup`, and `RadioButton` components. A callout box highlights the variable `radioEven` with the annotation `3 Usages`. The code editor's status bar at the bottom right shows the date as 11/10/2025.

```
1 package com.example.list
2
3 import android.os.Bundle
4 import android.text.Editable
5 import android.text.TextWatcher
6 import android.view.View
7 import android.widget.<*>
8 import androidx.appcompat.app.AppCompatActivity
9
10 class MainActivity : AppCompatActivity() {
11
12     private lateinit var editTextNumber: EditText
13     private lateinit var radioGroupRow1: RadioGroup
14     private lateinit var radioEven: RadioButton
15     private lateinit var radioOdd: RadioButton
16     private lateinit var radioSquare: RadioButton
17     private lateinit var radioPrime: RadioButton
18     private lateinit var radioPerfect: RadioButton
19     private lateinit var radioFibonacci: RadioButton
20     private lateinit var listViewNumbers: ListView
21 }
```

Fibonacci:

The screenshot shows the Android Studio interface with the following details:

- Project Structure:** The left sidebar shows the project structure under the "Android" tab, with the "app" module selected. Inside "app", there are "manifests", "kotlin+java", "com.example.list" (containing "MainActivity"), and "res" (containing "drawable", "layout", "mipmap", "values", and "xml").
- MainActivity.kt:** The main code editor window displays the Kotlin code for "MainActivity". The code includes imports for android.os.Bundle, android.text.Editable, android.view.View, android.widget.* from android.widget, and androidx.appcompat.app.AppCompatActivity. It defines a class MainActivity that extends AppCompatActivity. The code uses several private lateinit variables: editTextNumber, radioGroupRow1, radioGroupRow2, radioEven, radioOdd, radioSquare, radioPrime, radioPerfect, and radioFibonacci. It also initializes a listViewNumbers ListView.
- Floating Window:** A floating window titled "Medium Phone API 36.1" is open on the right side. It contains a calculator interface for generating Fibonacci numbers. The input field shows the value "36". Below it is a list of Fibonacci numbers starting from 0 up to 34. The number 34 is currently highlighted. The floating window has a sidebar with radio buttons for "Chẵn" (Even), "Lẻ" (Odd), "Chinh phuong" (Perfect square), and "Nguyen so" (Natural number). The "Hoan hao" (Perfect) button is also present but not selected.
- System Bar:** The bottom of the screen shows the Windows taskbar with various pinned icons. The system tray indicates the date as 11/10/2025 and the time as 9:23 PM.