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## BÁO CÁO BÀI TẬP VỀ NHÀ

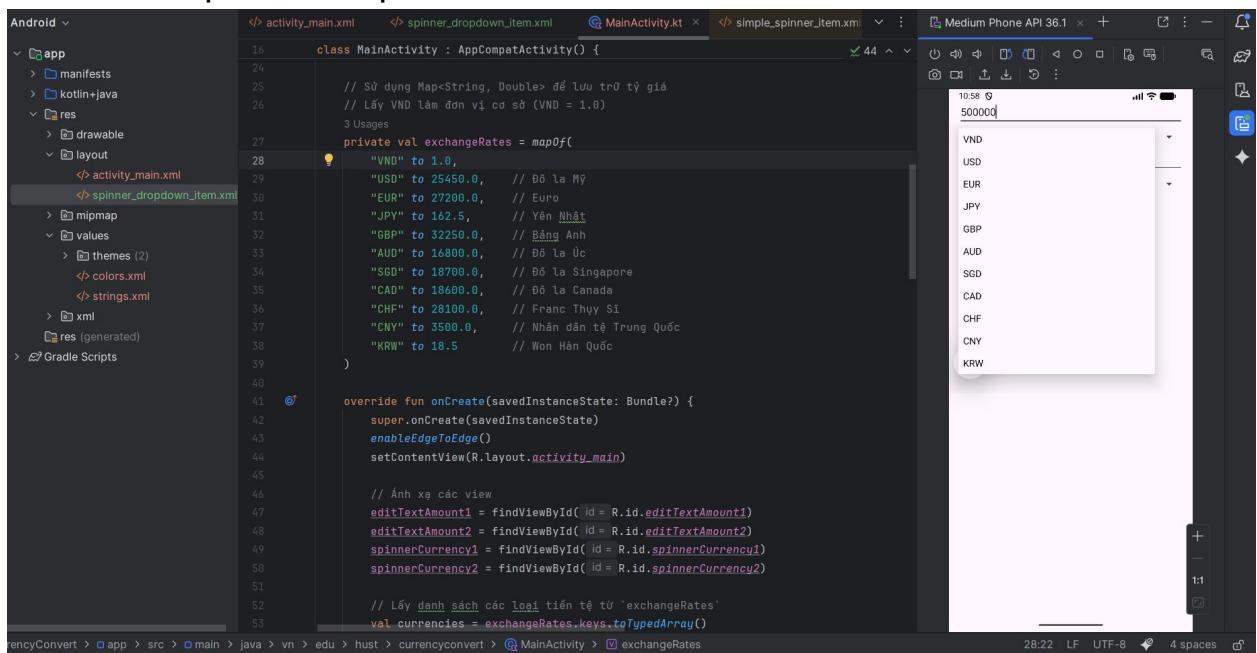
### Bài 1:

Link github:

[https://github.com/nqk-khanhbk/Lap\\_trinh\\_Android/tree/main/CurrencyConvert](https://github.com/nqk-khanhbk/Lap_trinh_Android/tree/main/CurrencyConvert)

Kết quả chạy chương trình:

- Màn hình Spinner Dropdown



- Đổi từ tiền việt nam sang tiền mỹ với 1usd = 25450 vnd

The screenshot shows the Android Studio interface. On the left is the Project structure, with the 'app' module selected. In the center, the code editor displays `MainActivity.kt`. The code defines a class `MainActivity` that handles currency conversion between VND and USD. It includes methods for creating the UI and handling user input. On the right, an emulator window titled 'Medium Phone API 36.1' shows a simple application. A text input field contains '500000'. Below it, two dropdown spinners are set to 'VND' and 'USD'. The conversion result is shown as '19.6464'.

```

16     class MainActivity : AppCompatActivity() {
24
25         // Sử dụng Map<String, Double> để lưu trữ tỷ giá
26         // Lấy VND làm đơn vị cơ sở (VND = 1.0)
27         private val exchangeRates = mapOf(
28             "VND" to 1.0,
29             "USD" to 25450.0,    // Đô la Mỹ
30             "EUR" to 27200.0,    // Euro
31             "JPY" to 162.5,      // Yên Nhật
32             "GBP" to 32250.0,    // Bảng Anh
33             "AUD" to 16800.0,    // Đô la Úc
34             "SGD" to 18700.0,    // Đô la Singapore
35             "CAD" to 18600.0,    // Đô la Canada
36             "CHF" to 28100.0,    // Franc Thụy Sĩ
37             "CNY" to 3500.0,      // Nhân dân tệ Trung Quốc
38             "KRW" to 18.5         // Won Hàn Quốc
39         )
40
41         override fun onCreate(savedInstanceState: Bundle?) {
42             super.onCreate(savedInstanceState)
43             enableEdgeToEdge()
44             setContentView(R.layout.activity_main)
45
46             // Ánh xạ các view
47             editTextAmount1 = findViewById(id = R.id.editTextAmount1)
48             editTextAmount2 = findViewById(id = R.id.editTextAmount2)
49             spinnerCurrency1 = findViewById(id = R.id.spinnerCurrency1)
50             spinnerCurrency2 = findViewById(id = R.id.spinnerCurrency2)
51
52             // Lấy danh sách các loại tiền tệ từ 'exchangeRates'
53             val currencies = exchangeRates.keys.toTypedArray()
54         }
55     }

```

- Đổi từ tiền việt nam sang tiền Euro với 1eur = 27200 vnd

This screenshot is identical to the one above, showing the same code in `MainActivity.kt` and the same currency conversion results in the emulator. The input '500000' and output '18.3824' are visible.

- Đổi từ tiền việt nam sang tiền Nhật với 1jpy = 162.5 vnd

The screenshot shows the Android Studio interface with the code editor open to `MainActivity.kt`. The code defines a map of exchange rates from various currencies to Vietnamese Dong (VND). The emulator window shows the app running on a 'Medium Phone API 36.1' device, with the currency conversion interface visible.

```

16 class MainActivity : AppCompatActivity() {
24     // Sử dụng Map<String, Double> để lưu trữ tỷ giá
25     // Lấy VND làm đơn vị cơ sở (VND = 1.0)
26     3 Usages
27     private val exchangeRates = mapOf(
28         "VND" to 1.0,
29         "USD" to 25450.0, // Đô la Mỹ
30         "EUR" to 27200.0, // Euro
31         "JPY" to 162.5, // Yên Nhật
32         "GBP" to 32250.0, // Bảng Anh
33         "AUD" to 16800.0, // Đô la Úc
34         "SGD" to 18700.0, // Đô la Singapore
35         "CAD" to 18600.0, // Đô la Canada
36         "CHF" to 28100.0, // Franc Thụy Sĩ
37         "CNY" to 3500.0, // Nhân dân tệ Trung Quốc
38         "KRW" to 18.5 // Won Hàn Quốc
39     )
40
41     override fun onCreate(savedInstanceState: Bundle?) {
42         super.onCreate(savedInstanceState)
43         enableEdgeToEdge()
44         setContentView(R.layout.activity_main)
45
46         // Ánh xạ các view
47         editTextAmount1 = findViewById(id = R.id.editTextAmount1)
48         editTextAmount2 = findViewById(id = R.id.editTextAmount2)
49         spinnerCurrency1 = findViewById(id = R.id.spinnerCurrency1)
50         spinnerCurrency2 = findViewById(id = R.id.spinnerCurrency2)
51
52         // Lấy danh sách các loại tiền tệ từ `exchangeRates`
53         val currencies = exchangeRates.keys.toTypedArray()

```

- Đổi từ tiền việt nam sang tiền bảng anh với 1gbp = 32250 vnd

The screenshot shows the Android Studio interface with the code editor open to `MainActivity.kt`. The code defines a map of exchange rates from various currencies to Vietnamese Dong (VND). The emulator window shows the app running on a 'Medium Phone API 36.1' device, with the currency conversion interface visible.

```

16 class MainActivity : AppCompatActivity() {
24     // Sử dụng Map<String, Double> để lưu trữ tỷ giá
25     // Lấy VND làm đơn vị cơ sở (VND = 1.0)
26     3 Usages
27     private val exchangeRates = mapOf(
28         "VND" to 1.0,
29         "USD" to 25450.0, // Đô la Mỹ
30         "EUR" to 27200.0, // Euro
31         "JPY" to 162.5, // Yên Nhật
32         "GBP" to 32250.0, // Bảng Anh
33         "AUD" to 16800.0, // Đô la Úc
34         "SGD" to 18700.0, // Đô la Singapore
35         "CAD" to 18600.0, // Đô la Canada
36         "CHF" to 28100.0, // Franc Thụy Sĩ
37         "CNY" to 3500.0, // Nhân dân tệ Trung Quốc
38         "KRW" to 18.5 // Won Hàn Quốc
39     )
40
41     override fun onCreate(savedInstanceState: Bundle?) {
42         super.onCreate(savedInstanceState)
43         enableEdgeToEdge()
44         setContentView(R.layout.activity_main)
45
46         // Ánh xạ các view
47         editTextAmount1 = findViewById(id = R.id.editTextAmount1)
48         editTextAmount2 = findViewById(id = R.id.editTextAmount2)
49         spinnerCurrency1 = findViewById(id = R.id.spinnerCurrency1)
50         spinnerCurrency2 = findViewById(id = R.id.spinnerCurrency2)
51
52         // Lấy danh sách các loại tiền tệ từ `exchangeRates`
53         val currencies = exchangeRates.keys.toTypedArray()

```

- Đổi từ tiền việt nam sang tiền đô la úc với 1aud = 16800 vnd

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

- Project Structure:** The left sidebar shows the project structure under the "app" module, including files like activity\_main.xml, spinner\_dropdown\_item.xml, MainActivity.kt, and simple\_spinner\_item.xml.
- MainActivity.kt Code:** The main code block contains Java code for a MainActivity. It defines a map of exchange rates from various currencies to Vietnamese Dong (VND). The code includes methods for initializing views and retrieving the exchange rate map.
- Emulator:** On the right, the Android emulator displays a currency conversion application. The screen shows:
  - Time: 10:57
  - Battery: 500000
  - Currency selection dropdown: VND
  - Conversion result: 29.7619
  - Conversion pair: AUD

## Bài 2:

Link github:

[https://github.com/nqk-khanhbk/Lap\\_trinh\\_Android/tree/main/choice\\_number](https://github.com/nqk-khanhbk/Lap_trinh_Android/tree/main/choice_number)

Ảnh chạy chương trình:

- Số lẻ nhỏ hơn 100

The screenshot shows the Android Studio interface with the code editor open to `MainActivity.kt`. The code defines a class `MainActivity` that extends `AppCompatActivity`. The floating window displays the number 100 and a list of numbers from 1 to 27. The first item in the list is "Số lẻ" (Odd number), which is selected.

```
1 package vn.edu.hust.choice_number
2
3 import android.os.Bundle
4 import android.text.Editable
5 import android.text.TextWatcher
6 import android.widget.*
7 import androidx.appcompat.app.AppCompatActivity
8 import kotlin.math.sqrt
9
10 Usage
11 class MainActivity : AppCompatActivity() {
12
13     3 Usages
14     private lateinit var edtNumber: EditText
15     2 Usages
16     private lateinit var listView: ListView
17     10 Usages
18     private lateinit var tvMessage: TextView
19     11 Usages
20     private lateinit var adapter: ArrayAdapter<Long>
21
22     // RadioButtons
23     3 Usages
24     private lateinit var rble: RadioButton
25     3 Usages
26     private lateinit var rbChan: RadioButton
27     3 Usages
28     private lateinit var rbNguyenTo: RadioButton
29     3 Usages
30     private lateinit var rbChinhPhuong: RadioButton
31     3 Usages
32     private lateinit var rbHoanHao: RadioButton
33
34 }
```

## - Số chẵn nhỏ hơn 100

The screenshot shows the Android Studio interface with the code editor open to `MainActivity.kt`. The floating window displays the number 100 and a list of numbers from 1 to 28. The first item in the list is "Số chẵn" (Even number), which is selected.

```
1 package vn.edu.hust.choice_number
2
3 import android.os.Bundle
4 import android.text.Editable
5 import android.text.TextWatcher
6 import android.widget.*
7 import androidx.appcompat.app.AppCompatActivity
8 import kotlin.math.sqrt
9
10 Usage
11 class MainActivity : AppCompatActivity() {
12
13     3 Usages
14     private lateinit var edtNumber: EditText
15     2 Usages
16     private lateinit var listView: ListView
17     10 Usages
18     private lateinit var tvMessage: TextView
19     11 Usages
20     private lateinit var adapter: ArrayAdapter<Long>
21
22     // RadioButtons
23     3 Usages
24     private lateinit var rble: RadioButton
25     3 Usages
26     private lateinit var rbChan: RadioButton
27     3 Usages
28     private lateinit var rbNguyenTo: RadioButton
29     3 Usages
30     private lateinit var rbChinhPhuong: RadioButton
31     3 Usages
32     private lateinit var rbHoanHao: RadioButton
33
34 }
```

## - Số chính phương nhỏ hơn 100

The screenshot shows the Android Studio interface. On the left is the Project Navigational Bar with 'app' selected. The main area displays the code for `MainActivity.kt`. The code defines a class `MainActivity` extending `AppCompatActivity`. It contains several private fields and their initializations. A floating window titled 'Medium Phone API 36.1' is visible on the right, showing a calculator interface with a history list containing numbers: 100, 1, 4, 9, 16, 25, 36, 49, 64, and 81.

```
1 package vn.edu.hust.choice_number
2
3 import android.os.Bundle
4 import android.text.Editable
5 import android.text.TextWatcher
6 import android.widget.*
7 import androidx.appcompat.app.AppCompatActivity
8 import kotlin.math.sqrt
9
10 Usage
11
12 class MainActivity : AppCompatActivity() {
13
14     3 Usages
15     private lateinit var edtNumber: EditText
16     2 Usages
17     private lateinit var listView: ListView
18     10 Usages
19     private lateinit var tvMessage: TextView
20     11 Usages
21     private lateinit var adapter: ArrayAdapter<Long>
22
23     // RadioButtons
24     3 Usages
25     private lateinit var rble: RadioButton
26     3 Usages
27     private lateinit var rbChan: RadioButton
28     3 Usages
29     private lateinit var rbNguyenTo: RadioButton
30     3 Usages
31     private lateinit var rbChinhPhuong: RadioButton
32     3 Usages
33     private lateinit var rbHoanHao: RadioButton
34
35 }
```

## - Số nguyên tố nhỏ hơn 100

This screenshot is identical to the one above, showing the same code in `MainActivity.kt` and the same floating calculator window with the history list: 100, 1, 4, 9, 16, 25, 36, 49, 64, and 81.

```
1 package vn.edu.hust.choice_number
2
3 import android.os.Bundle
4 import android.text.Editable
5 import android.text.TextWatcher
6 import android.widget.*
7 import androidx.appcompat.app.AppCompatActivity
8 import kotlin.math.sqrt
9
10 Usage
11
12 class MainActivity : AppCompatActivity() {
13
14     3 Usages
15     private lateinit var edtNumber: EditText
16     2 Usages
17     private lateinit var listView: ListView
18     10 Usages
19     private lateinit var tvMessage: TextView
20     11 Usages
21     private lateinit var adapter: ArrayAdapter<Long>
22
23     // RadioButtons
24     3 Usages
25     private lateinit var rble: RadioButton
26     3 Usages
27     private lateinit var rbChan: RadioButton
28     3 Usages
29     private lateinit var rbNguyenTo: RadioButton
30     3 Usages
31     private lateinit var rbChinhPhuong: RadioButton
32     3 Usages
33     private lateinit var rbHoanHao: RadioButton
34
35 }
```

## - Số Fibonacci nhỏ hơn 100

The screenshot shows the Android Studio interface. On the left is the project structure with 'app' selected, containing 'manifests', 'kotlin+java', 'res' (with 'drawable', 'layout', 'values', 'xml'), and 'Gradle Scripts'. The main code editor shows `MainActivity.kt` with the following code:

```
1 package vn.edu.hust.choice_number
2
3 import android.os.Bundle
4 import android.text.Editable
5 import android.text.TextWatcher
6 import android.widget.*
7 import androidx.appcompat.app.AppCompatActivity
8 import kotlin.math.sqrt
9
10 Usage
11
12 class MainActivity : AppCompatActivity() {
13
14     3 Usages
15     private lateinit var edtNumber: EditText
16
17     2 Usages
18     private lateinit var listView: ListView
19
20     10 Usages
21     private lateinit var tvMessage: TextView
22
23     11 Usages
24     private lateinit var adapter: ArrayAdapter<Long>
25
26     // RadioButtons
27
28     3 Usages
29     private lateinit var rbOne: RadioButton
30
31     3 Usages
32     private lateinit var rbChan: RadioButton
33
34     3 Usages
35     private lateinit var rbNguyenTo: RadioButton
36
37     3 Usages
38     private lateinit var rbChinhPhuong: RadioButton
39
40     3 Usages
41     private lateinit var rbHoanHao: RadioButton
42
43 }
```

The right side shows the emulator window titled 'Medium Phone API 36.1' displaying a list of numbers from 1 to 100. The number 100 is entered in a text input field at the top. Below it, there are four radio buttons labeled 'Số lẻ' (Odd), 'Số chẵn' (Even), 'Số nguyên tố' (Prime), and 'Số hoàn hảo' (Perfect). The 'Số hoàn hảo' button is selected.

## - Số hoàn hảo nhỏ hơn 100

This screenshot is identical to the one above, showing the same code in `MainActivity.kt` and the same state in the emulator. The difference is that the radio button for 'Số hoàn hảo' is now unselected, while the others remain selected.