



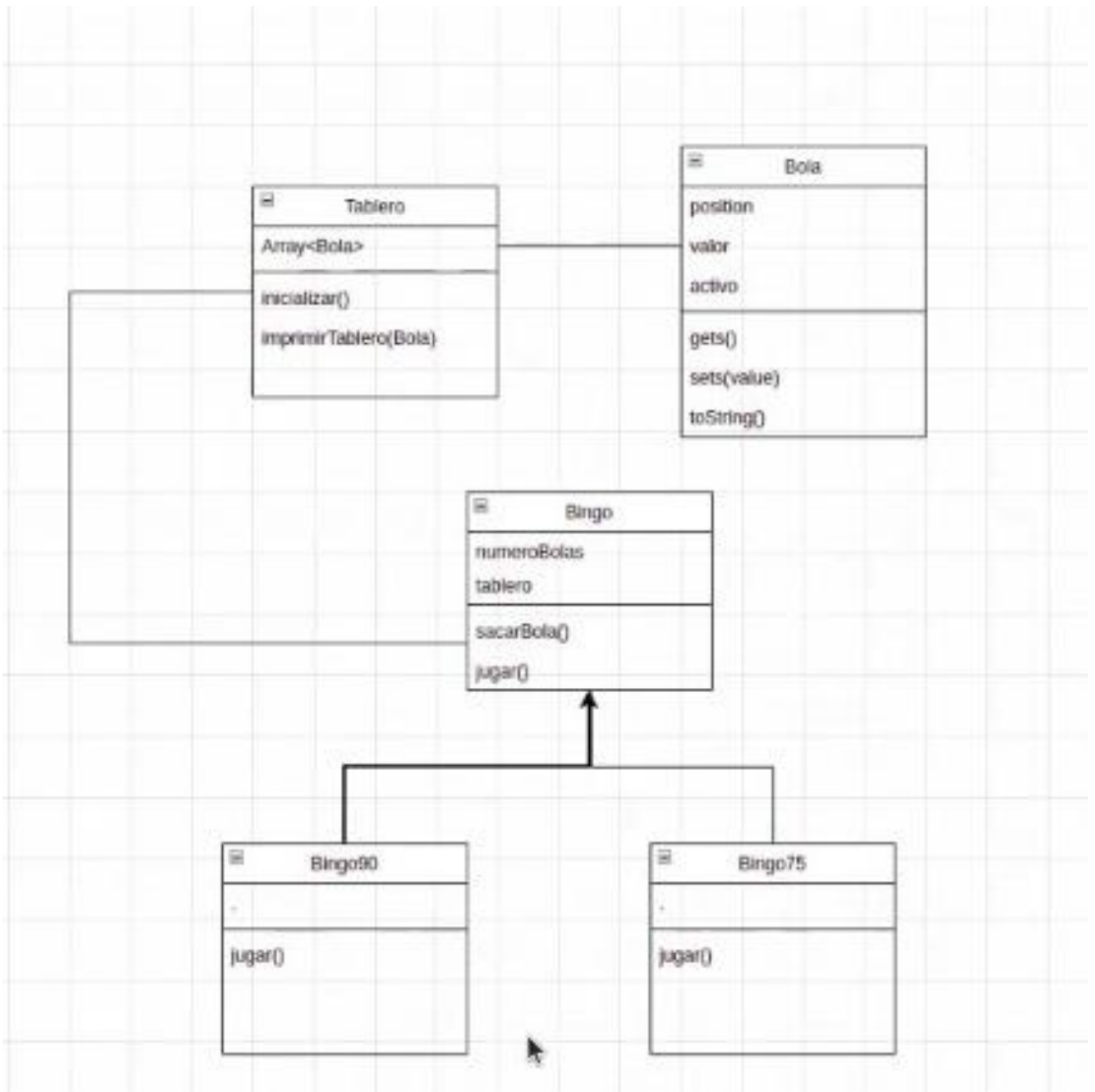
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**Materia:** Objetos y abstracción de datos

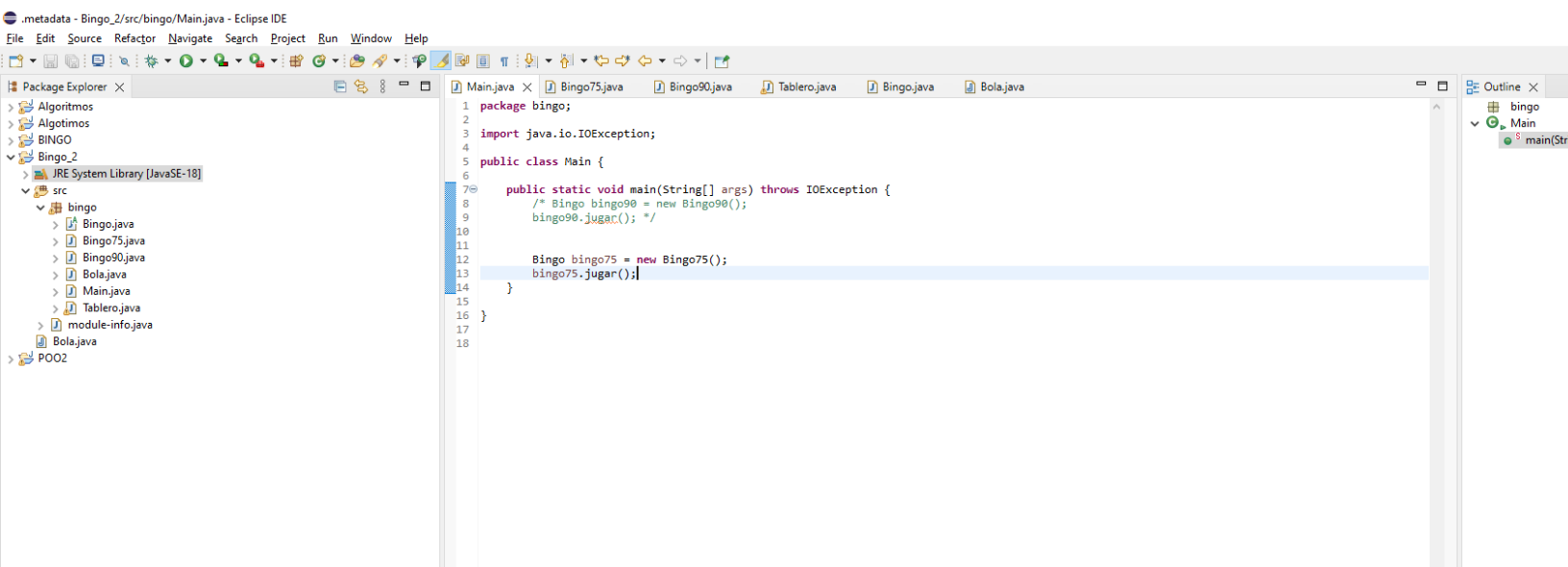
**Docente:** Ing. Luis Quishpi. MSc.

**Fecha:** 02/12/2022

Diagrama de clases:

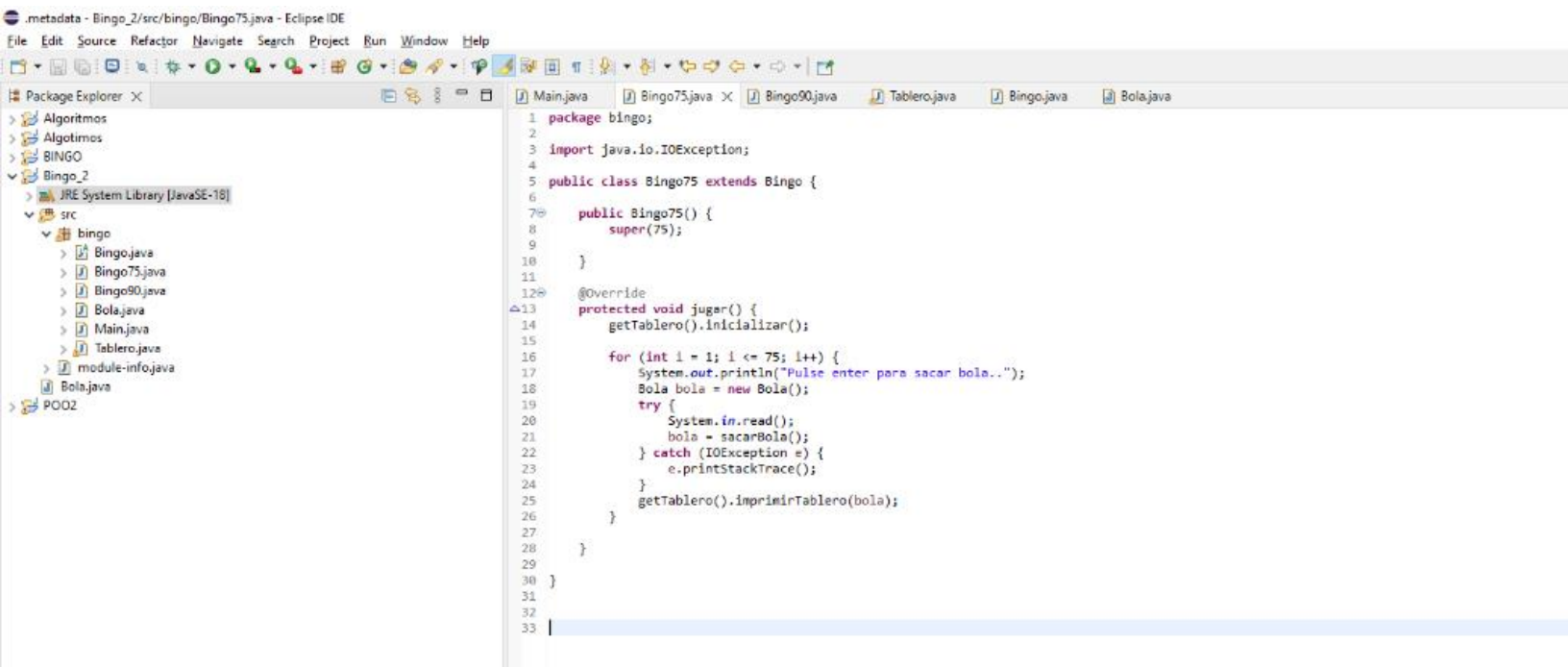


## Capturas de la ejecución del programa:



This screenshot shows the Eclipse IDE with the file `Main.java` open. The Package Explorer on the left shows the project structure: `Algoritmos`, `BINGO`, `Bingo_2` (containing `JRE System Library [JavaSE-18]`), `src` (containing `bingo`), and `POO2`. The `bingo` package contains `Bingo.java`, `Bingo75.java`, `Bingo90.java`, `Bola.java`, `Main.java`, `Tablero.java`, `module-info.java`, and `Bola.java`. The `Main.java` file is open in the editor, showing the following code:

```
1 package bingo;
2
3 import java.io.IOException;
4
5 public class Main {
6
7     public static void main(String[] args) throws IOException {
8         /* Bingo bingo90 = new Bingo90();
9         bingo90.jugar(); */
10
11
12         Bingo bingo75 = new Bingo75();
13         bingo75.jugar();
14     }
15
16 }
17
18
```



This screenshot shows the Eclipse IDE with the file `Bingo75.java` open. The Package Explorer on the left shows the project structure: `Algoritmos`, `BINGO`, `Bingo_2` (containing `JRE System Library [JavaSE-18]`), `src` (containing `bingo`), and `POO2`. The `bingo` package contains `Bingo.java`, `Bingo75.java`, `Bingo90.java`, `Bola.java`, `Main.java`, `Tablero.java`, `module-info.java`, and `Bola.java`. The `Bingo75.java` file is open in the editor, showing the following code:

```
1 package bingo;
2
3 import java.io.IOException;
4
5 public class Bingo75 extends Bingo {
6
7     public Bingo75() {
8         super(75);
9     }
10
11
12     @Override
13     protected void jugar() {
14         getTablero().inicializar();
15
16         for (int i = 1; i <= 75; i++) {
17             System.out.println("Pulse enter para sacar bola..");
18             Bola bola = new Bola();
19             try {
20                 System.in.read();
21                 bola = sacarBola();
22             } catch (IOException e) {
23                 e.printStackTrace();
24             }
25             getTablero().imprimirTablero(bola);
26         }
27     }
28
29 }
30
31
32
33
```

.metadata - Bingo\_2/src/bingo/Bingo90.java - Eclipse IDE

File Edit Source Refactor Navigate Search Project Run Window Help

```
1 package bingo;
2
3 import java.io.IOException;
4
5 public class Bingo90 extends Bingo {
6
7     public Bingo90() {
8         super(90);
9     }
10
11     @Override
12     protected void jugar() {
13         getTablero().inicializar();
14
15         for (int i = 1; i <= 90; i++) {
16             System.out.println("Pulse enter para sacar bola..");
17             Bola bola = new Bola();
18             try {
19                 System.in.read();
20                 bola = sacarBola();
21             } catch (IOException e) {
22                 e.printStackTrace();
23             }
24             getTablero().imprimirTablero(bola);
25         }
26     }
27 }
28
29
30 }
```

.metadata - Bingo\_2/src/bingo/Tablero.java - Eclipse IDE

File Edit Source Refactor Navigate Search Project Run Window Help

```
1 package bingo;
2
3 import java.util.Scanner;
4
5 public class Tablero {
6
7     private ArrayList<Bola> tablero;
8     int x;
9     boolean band = true;
10     public Tablero() {
11         this.tablero = new ArrayList<Bola>();
12     }
13
14     public void inicializar() {
15         Scanner sc = new Scanner(System.in);
16         System.out.print("ingrese los numeros de la tabla: ");
17         x = sc.nextInt();
18         System.out.println("Inicializando bingo de " + x + "PELOTAS");
19         int valorBola = 1;
20
21         if (x == 90) {
22             for (int i = 0; i < 9; i++) {
23                 for (int j = 0; j < 10; j++) {
24                     tablero.add(new Bola(valorBola - 1, valorBola + "", false));
25                     System.out.print(getBola(valorBola - 1) + "\t");
26                     valorBola++;
27                 }
28                 System.out.println("\n");
29             }
30         } else if (x == 75) {
31             for (int i = 0; i < 5; i++) {
32                 for (int j = 0; j < 15; j++) {
33                     tablero.add(new Bola(valorBola - 1, valorBola + "", false));
34                     System.out.print(getBola(valorBola - 1) + "\t");
35                     valorBola++;
36                 }
37                 System.out.println("\n");
38             }
39         } else {
40             System.out.println("Opcion Incorrecta");
41         }
42     }
43
44     public void imprimirTablero(Bola bola) {
45         bola.setValor("(" + bola.getValor() + ")");
46         tablero.set(bola.getPosition(), bola);
47         int valorBola = 1;
48
49         if (x == 90) {
50             for (int i = 0; i < 9; i++) {
51                 for (int j = 0; j < 10; j++) {
52                     System.out.print(getBola(valorBola - 1) + "\t");
53                 }
54             }
55         }
56     }
57 }
58
59
60 }
```

.metadata - Bingo\_2/src/bingo/Bingo.java - Eclipse IDE

File Edit Source Refactor Navigate Search Project Run Window Help



Package Explorer X Main.java Bingo75.java Bingo90.java Tablero.java Bingo.java Bola.java

Algoritmos  
Algoritmos  
BINGO  
Bingo\_2  
JRE System Library [JavaSE-18]  
src  
bingo  
Bingo.java  
Bingo75.java  
Bingo90.java  
Bola.java  
Main.java  
Tablero.java  
module-info.java  
Bola.java  
POO2

```
1 package bingo;
2
3 import java.util.Random;
4
5 public abstract class Bingo {
6     private int numeroBolas;
7     private Tablero tablero;
8
9     public Bingo(int numeroBolas) {
10         this.numeroBolas = numeroBolas;
11         setTablero(new Tablero());
12     }
13
14     public Bola sacarBola() {
15         Random random = new Random();
16         int value = (random.nextInt(numeroBolas - 1 + 1) + 1);
17         return new Bola(value - 1, value + "", true);
18     }
19
20     protected abstract void jugar();
21
22     public int getNumeroBolas() {
23         return numeroBolas;
24     }
25
26     public void setNumeroBolas(int numeroBolas) {
27         this.numeroBolas = numeroBolas;
28     }
29
30     public Tablero getTablero() {
31         return tablero;
32     }
33
34     public void setTablero(Tablero tablero) {
35         this.tablero = tablero;
36     }
37
38 }
39
40
```

.metadata - Bingo\_2/Bola.java - Eclipse IDE

File Edit Source Refactor Navigate Search Project Run Window Help



Package Explorer X Main.java Bingo75.java Bingo90.java Tablero.java Bingo.java Bola.java

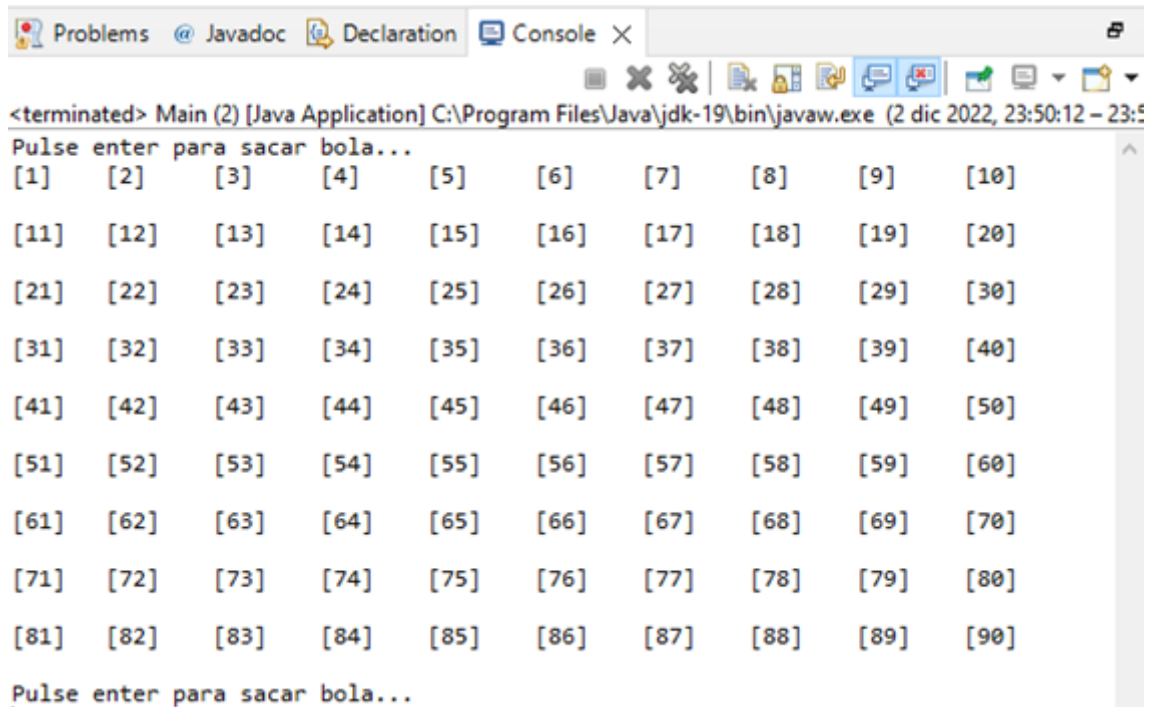
Algoritmos  
Algoritmos  
BINGO  
Bingo\_2  
JRE System Library [JavaSE-18]  
src  
bingo  
Bingo.java  
Bingo75.java  
Bingo90.java  
Bola.java  
Main.java  
Tablero.java  
module-info.java  
Bola.java  
POO2

```
1 package bingo;
2
3 public class Bola {
4
5     private int position;
6     private String valor;
7     private boolean activo;
8
9     public Bola() {
10         this.activo = false;
11     }
12
13     public Bola(int position, String valor, boolean activo) {
14         super();
15         this.position = position;
16         this.valor = valor;
17         this.activo = activo;
18     }
19
20     public String getValor() {
21         return valor;
22     }
23
24     public void setValor(String valor) {
25         this.valor = valor;
26     }
27
28     public boolean isActive() {
29         return activo;
30     }
31
32     public void setActive(boolean activo) {
33         this.activo = activo;
34     }
35
36     public int getPosition() {
37         return position;
38     }
39
40     public void setPosition(int position) {
41         this.position = position;
42     }
43
44     @Override
45     public String toString() {
46         // String retorno = "Bola [Valor: " + valor + ", Activo: " + activo + "]";
47         return valor;
48     }
49
50 }
51
52
```



```
Problems @ Javadoc Declaration Console X
<terminated> Main (2) [Java Application] C:\Program Files\Java\jdk-19\bin\javaw.exe (2 dic 2022, 23:54:21 - 23:5
Pulse enter para sacar bola...
[1] [2] [3] [4] [5]
[6] [7] [8] [9] [10]
[11] [12] [13] [14] [15]
[16] [17] [18] [19] [20]
[21] [22] [23] [24] [25]
[26] [27] [28] [29] [30]
[31] [32] [33] [34] [35]
[36] [37] [38] [39] [40]
[41] [42] [43] [44] [45]
[46] [47] [48] [49] [50]
[51] [52] [53] [54] [55]
[56] [57] [58] [59] [60]
[61] [62] [63] [64] [65]
[66] [67] [68] [69] [70]
[71] [72] [73] [74] [75]
Pulse enter para sacar bola...
```

```
Problems @ Javadoc Declaration Console X
Main (2) [Java Application] C:\Program Files\Java\jdk-19\bin\javaw.exe (2 dic 2022, 23:33:06) [pid: 11824]
Ingrese los numeros de la tabla: 90
```



The screenshot shows a Java IDE's console window. The title bar indicates the application is terminated. The console output shows a 10x10 grid of numbers from 1 to 90, arranged in 10 rows and 10 columns. Each number is enclosed in square brackets. The prompt 'Pulse enter para sacar bola...' appears at the top and bottom of the grid.

```
<terminated> Main (2) [Java Application] C:\Program Files\Java\jdk-19\bin\javaw.exe (2 dic 2022, 23:50:12 - 23:50:12)
Pulse enter para sacar bola...
[1] [2] [3] [4] [5] [6] [7] [8] [9] [10]
[11] [12] [13] [14] [15] [16] [17] [18] [19] [20]
[21] [22] [23] [24] [25] [26] [27] [28] [29] [30]
[31] [32] [33] [34] [35] [36] [37] [38] [39] [40]
[41] [42] [43] [44] [45] [46] [47] [48] [49] [50]
[51] [52] [53] [54] [55] [56] [57] [58] [59] [60]
[61] [62] [63] [64] [65] [66] [67] [68] [69] [70]
[71] [72] [73] [74] [75] [76] [77] [78] [79] [80]
[81] [82] [83] [84] [85] [86] [87] [88] [89] [90]
Pulse enter para sacar bola...
```

<https://github.com/Eddieajoy/Bingo75.git>