

Luis Outer Jaramillo Gómez

Ejemplos de prueba BST

Ejemplo de Prueba 1: Árbol Balanceado Simple

Insertar 50: será la raíz

(50)

/ \

Insertar 30: $30 < 50$, va a la izquierda de 50

(50)

/ \

(30)

/ \

Insertar 70: $70 > 50$, va a la derecha de 50

(50) (70)

Insertar 20: $20 < 50$ (izquierda), $20 < 30$ (izquierda). Va a la izquierda de 30

(50)

/ \ : 01 (30) (70)

(30) (70)

/ \ : 01 (20) (40)

(20)

/ \

Insertar 40: $40 < 50$ (izquierda), $40 > 30$ (derecha).

(50) (60)

/ \ : 05 (30) (70)

(30) (70)

/ \ : 05 (20) (40)

(20)

Insertar 60: $60 > 50$ derecha, $60 < 70$ (izquierda)

(50)

(30) (70)

(20) (40) (60)

Insertar 80: $80 > 50$ derecha, $80 > 70$ derecha. Va a la derecha

(50)

/ \

(30) (70)

/ \ / \

(20) (40) (60) (80)

Recorrido Inorden esperado: 20, 30, 40, 50, 60, 70, 80
(Números ordenados)

Ejemplo de prueba 2: Árbol Desbalanceado (inclina a la derecha).

Datos a insertar: [10, 20, 30, 40, 50]

(10) Insertar 10: Raíz

(10) Insertar 20: $20 > 10$ va a

' (20) la derecha

(10) Insertar 30: $30 > 10$ (derecha),

' (20) $30 > 20$ (derecha) - Va a

' (30) la derecha de 20.

' (40)

/ \

The screenshot shows the Apache NetBeans IDE 27 interface. The top menu bar includes File, Edit, View, Navigate, Source, Refactor, Run, Debug, Profile, Team, Tools, Window, Help, and a search bar. The title bar indicates "Unidad3 - Apache NetBeans IDE 27".

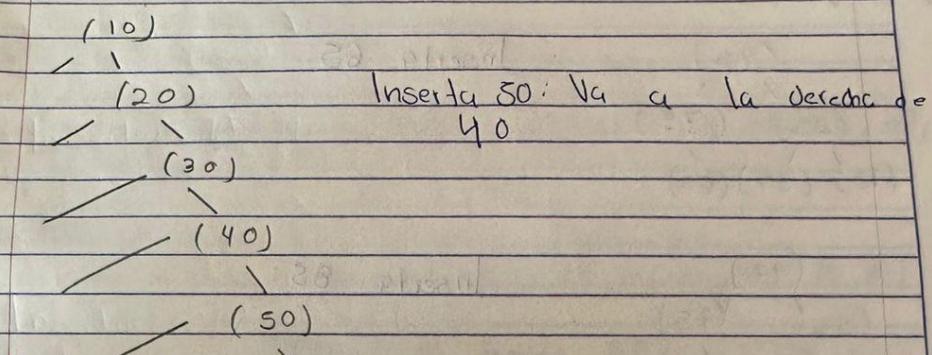
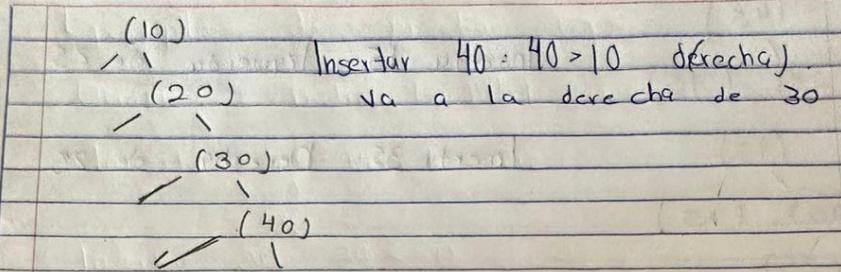
The left sidebar shows a tree view of the project structure under "Pro... X Files Services". The "Source Packages" section contains a folder "arboles" which holds three files: "ArbolBinario.java", "NodoArbol.java", and "PruebaArbol.java".

The main workspace has three tabs open: "NodoArbol.java", "ArbolBinario.java", and "PruebaArbol.java". The "PruebaArbol.java" tab is active, displaying the following Java code:

```
6  /*
7  *  *
8  *  * @author Owen_Miguel
9  *  */
10 public class PruebaArbol {
11     public static void main(String[] args) {
12         ArbolBinario arbol = new ArbolBinario();
13         System.out.println("Insertando valores: 50, 30, 70, 20, 40");
14         arbol.insertar(50);
15         arbol.insertar(30);
16     }
17 }
```

The "Output" tab shows the build log for the "Run (PolinomioListaCircularMain)" target:

```
Scanning for projects...
Building Unidad3 1.0-SNAPSHOT
from pom.xml
[ jar ]
resources:3.3:resources (default-resources) @ Unidad3
skip non existing resourceDirectory C:\Users\Owen_04\Documents\NetBeansProjects\Unidad3\src\main\resources
compiler3.13:compile (default-compile) @ Unidad3
Recompiling the module because of changed source code.
Compiling 5 source files with javac [debug release 24] to target\classes
exec1.1:execute (default-exec) @ Unidad3
Insertando valores: 50, 30, 70, 20, 40
Recorrido Inorden: 20 30 40 50 60 70 80
BUILD SUCCESS
Total time: 1.156 s
Finished at: 2025-11-25T14:03:01-06:00
```



Recorrido Inorden Esperado: 10, 20, 30, 40, 50

Datos a Insertar: [45, 25, 75, 15, 35, 65, 85, 5, 18, 30, 32]

(45) Inserta HS ruz

(45) Inserta 25: Izquierda de 45
(25)

(4s) Inserta 7S: Derecha de 4S
(2s) (7s)

```
package arboles;
/*
 * Author: Owen_04
 */
public class PruebaArbol {
    public static void main(String[] args) {
        ArbolBinario arbol = new ArbolBinario();
        System.out.println("Insertando valores: 50, 30, 70, 20, 40");
        arbol.insertar(10);
    }
}

Run (PolinomioListaCircularMain) x Run (PruebaArbol) x
Scanning for projects...
Building Unidad3 1.0-SNAPSHOT
from pom.xml
[ jax ] ...

--- resources:3.3:resources (default-resources) @ Unidad3 ---
skip non-existing resourceDirectory C:\Users\Owen_04\Documents\NetBeansProjects\Unidad3\src\main\resources

--- compiler:3.13:compile (default-compile) @ Unidad3 ---
Recompiling the module because of changed source code.
Compiling 5 source files with javac [debug release 24] to target\classes

--- exec:1.0:exec (default-exec) @ Unidad3 ---
Insertando valores: 50, 30, 70, 20, 40
Recorrido Inorden: 10 20 30 40 50
BUILD SUCCESS
Total time: 1.620 s
Finished at: 2025-11-23T14:10:05-06:00
-----
```

$(4s)$
 $(2s) (7s)$

Inserta 15: Izquierda de 2s

$(1s)$
 $(4s)$
 $(2s) (7s)$

Inserta 3s: Derecha de 2s

$(1s) (3s)$

Inserta 6s:

$(2s) (7s)$

$(1s) (3s) (6s)$

$(4s)$

Inserta 8s:

$(2s) (7s)$

$(1s) (3s) (6s) (8s)$

$(4s)$

Inserta 5:

$(2s) (7s)$

$(1s) (3s) (6s) (8s)$

$(5s)$

$(4s)$

Inserta 18:

$(2s) (7s)$

$(1s) (3s) (6s) (8s)$

$(5s) (8s)$

Apache NetBeans IDE 27

Search (Ctrl+F)

Unidad3 - Apache NetBeans IDE 27

File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help

NodoArbol.java X ArbolBinario.java X PruebaArbol.java X

Source History

```
package arboles;
/*
 * Author: Owen_04
 */
public class PruebaArbol {
    public static void main(String[] args) {
        ArbolBinario arbol = new ArbolBinario();
        System.out.println("Insertando valores: 50, 30, 70, 20, 40");
        arbol.insertar(45);
    }
}
```

Output

Run (PolinomioListaCircularMain) X Run (PruebaArbol) X

Scanning for projects...

Building Unidad3 1.0-SNAPSHOT from pom.xml

[Jar]

-- resources:1.3:resources (default-resources) @ Unidad3 --
- skip non existing resourceDirectory C:\Users\Owen_04\Documents\NetBeansProjects\Unidad3\src\main\resources

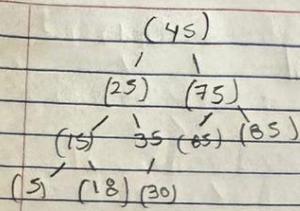
-- compiler:1.13:compile (default-compile) @ Unidad3 --
- Recompiling the module because of changed source code.
- Compiling 5 source files with javac [debug release 24] to target\classes

-- exec:1.0:exec (default-exec) @ Unidad3 --
Insertando valores 50, 30, 70, 20, 40
Recorrido Inorden: 5 15 18 25 30 35 38 45 45 75 85

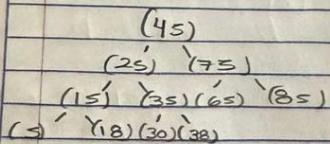
BUILD SUCCESS

Total time: 1.542 s
Finished at: 2025-11-25T14:20:39-06:00

Run (PilaDeNombres) X (1 more...) 2626 INS



Insecta 30:

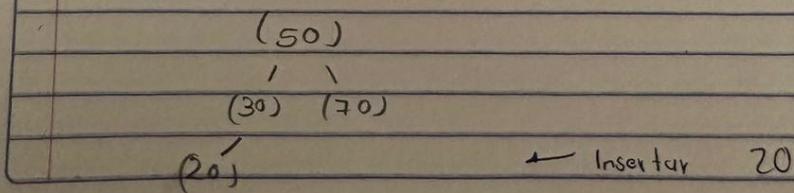
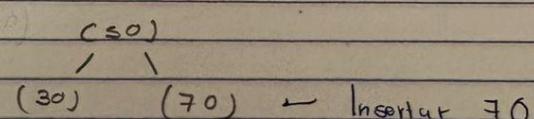
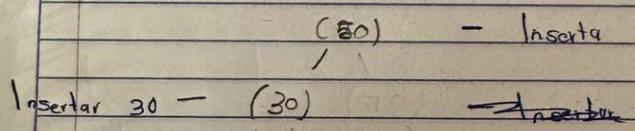


Insert 38

Recorrido en orden Esperado: 5, 15, 18, 25, 30, 35, 30, 45, 65, 75, 85

Ejemplo de Prueba 4: Con datos Duplicados

Datos a insertar: [50, 30, 70, 30, 50, 20, 70]



Screenshot of Apache NetBeans IDE 27 showing a Java project named "Unidad3".

The Project Explorer shows the following structure:

- Caja
- Luca
- OmegaUp
- Problemas
- Proyectosuniverciad
- UIIE_Owen_Miguel
- Unidad2
- Unidad3
- Source Packages
 - ArbolBinario.java
 - NodoArbol.java
 - PruebaArbol.java

The Source Editor displays the code for `PruebaArbol.java`:

```
/*
 * Author: Owen_04
 */
public class PruebaArbol {
    public static void main(String[] args) {
        ArbolBinario arbol = new ArbolBinario();
        System.out.println("Insertando valores: 50, 30, 70, 20, 40");
        arbol.insertar(50);
        arbol.insertar(30);
        arbol.insertar(70);
    }
}
```

The Output window shows the build log:

```
Scanning for projects...
Building Unidad3 1.0-SNAPSHOT
from pom.xml
-----[ jar ]-----
[ skip non existing resourceDirectory C:\Users\Owen_04\Documents\NetBeansProjects\Unidad3\src\main\resources ]
-----[ compile ]-----
[ skip non existing resourceDirectory C:\Users\Owen_04\Documents\NetBeansProjects\Unidad3\src\main\resources ]
-----[ compile ]-----
Recompiling the module because of changed source code.
Compiling 5 source files with javac [debug release 24] to target\classes
-----[ exec ]-----
Insertando valores: 50, 30, 70, 20, 40
- Recorrido Inorden: 20 30 50 70
-----
BUILD SUCCESS
Total time: 1.493 s
Finished at: 2025-11-25T14:35:03-06:00
-----
```

The status bar at the bottom right indicates: Run (PilaDeNombres) X (1 more...) 22:28 INS.