

- 1. NESTED loops
- Debugging NESTED loops
- 3. NESTED loops examples

NESTED Loops



Outer loop

Inner loop



```
for (int i=0; i<2; i++) {
  // for code block
```



```
for (int i=0; i<2; i++) {
  for (int j=0; j<2; j++){
     // for code block
```



```
for (int i=0; i<2; i++) {
  for (int j=0; j<2; j++){
     System.out.println("Hello world");
```



```
for (int i=0; i<2; i++) {
  for (int j=0; j<2; j++){
     System.out.println("Hello world");
//Prints
//Hello world
//Hello world
//Hello world
//Hello world
```



```
for (int i=0; i<2; i++) {
                                                        i=0
  for (int j=0; j<2; j++){
                                                                       j=0 Hello World
     System.out.println("Hello world");
                                                                       j=1 Hello World
                                                                            2 times
//Prints
//Hello world
//Hello world
```



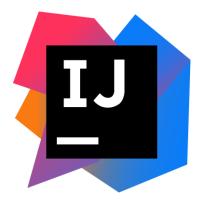
```
for (int i=0; i<2; i++) {
                                                      i=0
  for (int j=0; j<2; j++){
                                                                     j=0 Hello World
    System.out.println("Hello world");
                                                                    j=1 Hello World
                                                                         2 times
                                                      i=1
                                                                     j=0 Hello World
                                                                    j=1 Hello World
//Prints
                                                                         2 times
//Hello world
//Hello world
//Hello world
//Hello world
```

Debugging NESTED loops

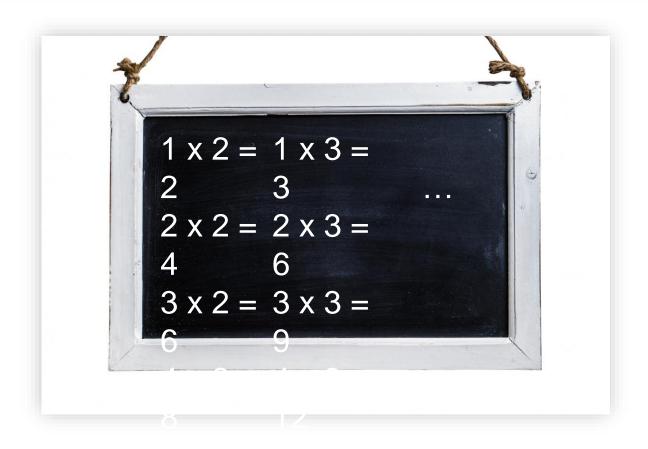
2. Debugging NESTED loops



Outer loop
Inner loop



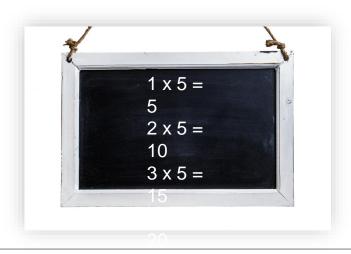






```
int num= //... numero introducido por el usuario

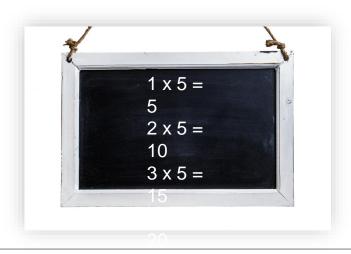
System.out.println("La tabla del " + num);
for(int i = 1; i <= 10; i++) {
    System.out.println(i+" x "+num+" = "+(i*num));
}</pre>
```



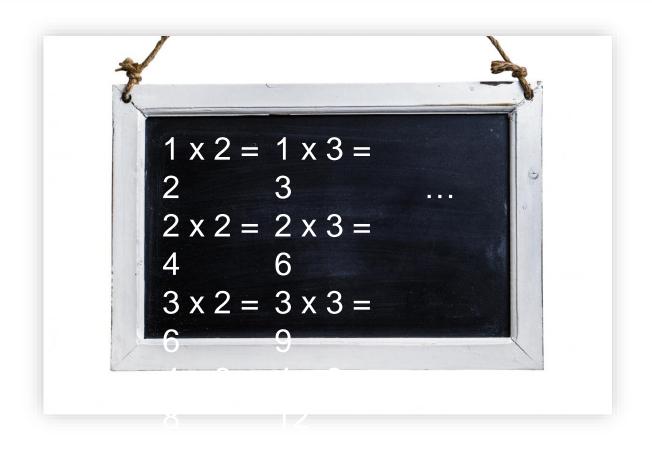


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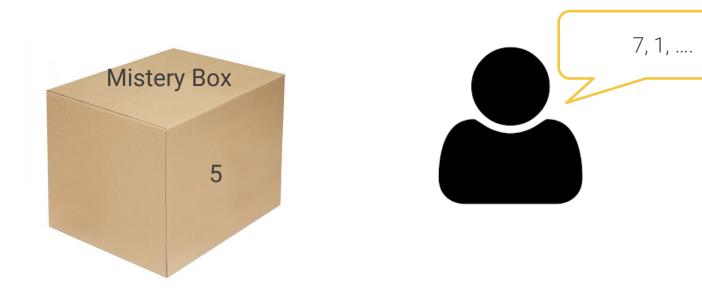
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int num= //... numero introducido por el usuario
for(int j = 1; j <= num; j++) {
                                                                                   Outer loop
 System.out.println("La tabla del " + j);
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 System.out.println("-----");
                                                                                     1 \times 2 = 1 \times 3 =
                                                                                     2 \times 2 = 2 \times 3 =
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                                                                                    Inner loop
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                                                                                     3 \times 2 = 3 \times 3 =
```



What's inside the mistery box?





```
Scanner input= new Scanner(System.in);
System.out.println("Wellcome to: Whats inside the mistery box?");
int mysteryBoxNumber = 5
int count = 3;
boolean win = false;
while (count>0 && !win){
   System.out.println("Please enter a number (1-10)");
   int num= input.nextInt();
   input.nextLine();
   count--;
   if (num==mysteryBoxNumber){
    win=true;
if (win){ System.out.println("You win!"); }
else {
 System.out.println("You lose!. The value of the mysterious box is.."+mysteryBoxNumber)
```





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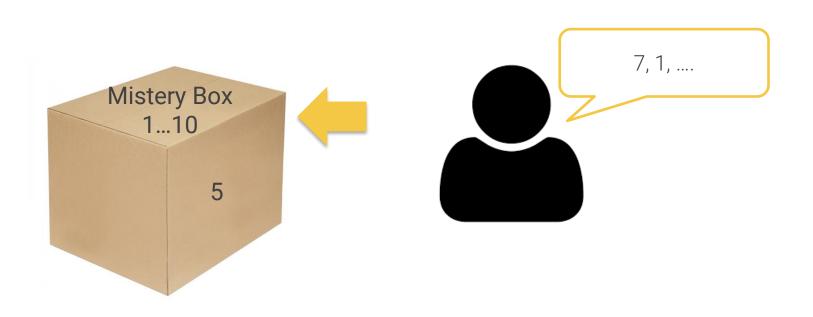


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What's inside the mistery box? version 1.0





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boolean win = false;
while (count>0 && !win){
 do{
   System.out.println("Please enter a number (1-10)");
   int num= input.nextInt();
   input.nextLine();
 }while ((num>=1)||(num<=10));</pre>
 count--;
 if (num==mysteryBoxNumber){
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                                                                                                      Mistery Box
int mysteryBoxNumber = 5
                                                                                                          1...10
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                                                                              Outer loop
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"Controlar la complejidad es la esencia de la programación"

La Salle

Brian Kernigan