[[1, 2], [3, 4]].map do |arr|

puts arr.first

arr.first

end

| **Line** | **Action** | **Object** | **Side Effect** | **Return Value** | **Is Return Value Used?** |
| --- | --- | --- | --- | --- | --- |
| 1 | Method call : map | Outer Array [[1,2], [3,4]] | None | New array  [1,3] | No, but show in return |
| 1-4 | Block execution | Each sub-array | None | Integer at index 0 of sub-array | Yes used by map for transformation |
| 2 | Method call: first | Each sub-array | None | Element at index 0 of sub-array | Yes used by puts |
| 2 | Method call:  puts | Element at index 0 of each sub-array | Outputs a string representation of an integer | Nil | no |
| 3 | Method call: first | Each sub-array | None | Element at index 0 of sub array | Yes, used to determine the return value of block |

my\_arr = [[18, 7], [3, 12]].each do |arr|

arr.each do |num|

if num > 5

puts num

end

end

end

| **Line** | **Action** | **Object** | **Side Effect** | **Return Value** | **Is Return Value Used?** |
| --- | --- | --- | --- | --- | --- |
| **1** | **variable assignment** | **n/a** | **None** | **[[18, 7], [3, 12]]** | **No** |
| **1** | **method call (each)** | **[[18, 7], [3, 12]]** | **None** | **The calling object: [[18, 7], [3, 12]]** | **Yes, used by variable assignment to my\_arr** |
| **1-7** | **outer block execution** | **Each sub-array** | **None** | **Each sub-array** | **No** |
| **2** | **method call (each)** | **Each sub-array** | **None** | **The calling object: sub-array in current iteration** | **Yes, used to determine return value of outer block** |
| **2-6** | **inner block execution** | **Element of the sub-array in that iteration** | **None** | **nil** | **No** |
| **3** | **comparison (>)** | **Element of the sub-array in that iteration** | **None** | **Boolean** | **Yes, evaluated by if** |
| **3-5** | **conditional (if)** | **Element of the sub-array in that iteration** | **None** | **nil** | **Yes, used to determine return value of inner block** |
| **4** | **method call (puts)** | **Element of the sub-array in that iteration** | **Outputs a string representation of an Integer** | **nil** | **Yes, used to determine return value of inner block** |
| [[1, 2], [3, 4]].map do |arr|  arr.map do |num|  num \* 2  end  end | | | | | |
| **Line** | **Action** | **Object** | **Side Effect** | **Return Value** | **Is Return Value Used?** |
| **1** | **Method call: map** | **Calling array [[1,2], [3,4]]** | **None** | **New transformed array** | **No** |
| **1-4** | **Outer block execution** | **Each sub array** | **None** | **New transformed array** | **yes, used by top-level map for transformation** |
| **2** | **Method call: map** | **Each sub array** | **None** | **New transformed array** | **Yes, used to determine outer block’s return value** |
| **2-4** | **Inner block execution** | **Element within each sub-array** | **None** | **An integer** | **Yes, used by inner map for transformation** |
| **3** | **Num \* 2** | **n/a** | **None** | **An integer** | **Yes, used to determine return value of inner block** |