Answer

For the problem, the variables a and b with values 1 and 2 respectively are declared inside the main(). So, their scope will be limited to that function.

Now, inside the middle(), b is assigned the value of a. So, b = 1. Since, middle() is inside the main(), a and b will carry their initial values.

Again, inside inner(), a and b are printed. Here, inner() is inside the middle(), so, a and b will carry the last value assigned to them, i.e, inside the middle(). So, when printed a,b, they will result in 1 1 (a=1, b=1).

Now, a is assigned the value 3 which is inside the middle(). So, current value, a=3, b=1, inner() is called and it will print a, b, which will result in 3 1 (a=3, b=1).

Again a, b are printed but inside middle(), this will result in 3 1 (a=3, b=1).

Now we are back in the main(), and it is calling the middle(), So, it will repeat all the steps of middle().

This will result in:

middle()

b=a=1 (This is because we are back in main() and the scope of a=3 was only inside middle(), so after coming outside middle() a will retain its previous value)

inner() -> print a,b -> 1 1

a = 3

inner() -> print a,b -> 3 1

print a,b -> 3 1

print a,b -> 1 2 (In this stage, b retains its initial value, as whatever was declared inside middle(), it will loose that when it comes outside middle())

If we give space after print each value then it will result in the following output:

1 1 3 1 1 2

NB: for any doubts feel free to ask.