

Version 1: Compare two integer values and determine which is largest

```
class ReturnDemoV1
{
    public static void main(String[] args)
    {
        int num1;
        int num2;
        int largest;

        System.out.println("Please enter two integer values.");
        System.out.print("Value 1: ");
        num1 = In.getInt();
        System.out.print("Value 2: ");
        num2 = In.getInt();

        if (num1>num2)
        {
            largest = num1;
        }
        else
        {
            largest = num2;
        }

        System.out.println("The largest value is " + largest);
    }
}
```

Version 2: Create a method called max which will return the largest value

- The two values to be compared have to be passed as **parameters**.
- The **method must be set to type int** because the answer (largest value) is an integer.
- Once the method determines the largest value, it will return an integer value using the **return** statement.
- The largest value will be passed back to the main method, where it is **stored in the variable largest**.

```
class ReturnDemoV2
{
    public static int max(int num1, int num2)
    {
        int largest;

        if (num1>num2)
        {
            largest = num1;
        }
        else
        {
            largest = num2;
        }

        return largest;
    }

    public static void main(String[] args)
    {
        int num1;
        int num2;
        int largest;

        System.out.println("Please enter two integer values.");
        System.out.print("Value 1: ");
        num1 = In.getInt();
        System.out.print("Value 2: ");
        num2 = In.getInt();

        largest = max(num1, num2);

        System.out.println("The largest value is " + largest);
    }
}
```

Version 3: The variables and parameter names from the `main` method are NOT the same as the parameters and variables from the `max` method

When we choose names for variables and parameters, it is natural to keep using the same names. You must keep in mind, however, that they are NOT actually the same, as shown below. All of the variables and parameters have been renamed.

```
class ReturnDemoV3
{
    public static int max(int val1, int val2)
    {
        int maxValue;

        if (val1>val2)
        {
            maxValue = val1;
        }
        else
        {
            maxValue = val2;
        }

        return maxValue;
    }

    public static void main(String[] args)
    {
        int num1;
        int num2;
        int largest;

        System.out.println("Please enter two integer values.");
        System.out.print("Value 1: ");
        num1 = In.getInt();
        System.out.print("Value 2: ");
        num2 = In.getInt();

        largest = max(num1, num2);

        System.out.println("The largest value is " + largest);
    }
}
```

Version 4: Parameters can be passed as variables or actual values

In the first versions of this program, we asked the user to supply values. These values were stored in a variable, and then we passed the values, as variables, to the method.

It is also possible, and valid, to simply set the values without variables. The following program has no user input.

```
class ReturnDemoV3
{
    public static int max(int val1, int val2)
    {
        int maxValue;

        if (val1>val2)
        {
            maxValue = val1;
        }
        else
        {
            maxValue = val2;
        }

        return maxValue;
    }

    public static void main(String[] args)
    {
        int largest;

        largest = max(5, 10);
        System.out.println("The largest value is " + largest);

        largest = max(-3, 6);
        System.out.println("The largest value is " + largest);

        largest = max(100, 33);
        System.out.println("The largest value is " + largest);
    }
}
```