What is the general contract between hashCode and equals methods in Java? What happens if the contract is broken, explain with an example?

Ans.

The general contract between hashcode and equals methods is that equal objects should have same hashcode and if one of the methods is overridden the other method should be overridden as-well.

If this contract is broken, the program will not function properly.

Eg.

If 2 object are equal according to the equals(), their hashcode should be same.

If the equals method is overridden without overriding hashcode method the same value will be declared false.

Equals method overridden and hashcode method overridden ->

m.equals(m) -> true

Equals method overridden and hashcode method not overridden ->

m.equals(m) -> false