**Test Case 1**:

One rectangle is on top right corner of other rectangle

Rectangle-1 : (1,5) (5,1)

Rectangle 2 : (3,7) (7,2)

**Resultant rectangle :** (3,5) (5,5) (3,2) (5,2)

**Test Case 2**:

One rectangle is on top left corner of other rectangle

Rectangle-1 : (1,9) (4,4)

Rectangle 2 : (3,6) (7,2)

**Resultant rectangle :** (3,6) (4,6) (3,4) (4,4)

**Test Case 3**:

One rectangle is intersecting Left side of rectangle(top 2 sides)

Rectangle-1 : (2,12) (9,2)

Rectangle 2 : (7,10) (13,4)

**Resultant rectangle :** (7,10) (9,10) (7,4) (9,4)

**Test Case 4**:

One rectangle is intersecting Left side of rectangle( only Left side of rectangle)

Rectangle-1 : (2,9) (8,3)

Rectangle 2 : (6,13) (15,1)

**Resultant rectangle :** (6,9) (8,9) (6,3) (8,3)

**Test Case 5**:

One rectangle is intersecting Left and right side of rectangle

Rectangle-1 : (6,22) (10,2)

Rectangle 2 : (2,18) (13,4)

**Resultant rectangle :** (6,18) (10,18) (6,4) (10,4)

**Test Case 6**:

One rectangle is intersecting Left and right side(only edge) of rectangle

Rectangle-1 : (6,22) (10,4)

Rectangle 2 : (2,18) (10,7)

**Resultant rectangle :** (6,18) (10,18) (6,7) (10,7)

**Test Case 7**:

One rectangle is intersecting Left and right side of rectangle

Rectangle-1 : (2,8) (9,3)

Rectangle 2 : (5,8) (14,3)

**Resultant rectangle :** (5,8) (9,8) (5,3) (9,3)

**Test Case 8**:

One rectangle is intersecting Left and right side of rectangle

Rectangle-1 : (5,12) (6,4)

Rectangle 2 : (2,7) (9,3)

**Resultant rectangle :** (5,7) (6,7) (5,4) (6,4)

**Test Case 9**:

One rectangle is intersecting Left and right side of rectangle

Rectangle-1 : (2,8) (20,5)

Rectangle 2 : (5,10) (15,2)

**Resultant rectangle :** (5,8) (15,8) (5,5) (15,5)

**Test Case 10**:

One rectangle is intersecting Left and right side of rectangle

Rectangle-1 : (1,15) (10,3)

Rectangle 2 : (10,10) (15,5)

**Resultant rectangle :** No Intersection

**Test Case 11**:

One rectangle is inside another rectangle

Rectangle-1 : (2,10) (17,3)

Rectangle 2 : (5,8) (10,5)

**Resultant rectangle :** (5,8) (10,8)(5,5)(10,5)

**Test Case 12**:

One rectangle is not intersecting another rectangle

Rectangle-1 : (2,8) (10,2)

Rectangle 2 : (12,13) (20,1)

**Resultant rectangle :** No Overlap

**Test Case 13**:

One rectangle is intersecting another rectangle

Rectangle-1 : (1,8) (8,5)

Rectangle 2 : (2,8) (5,3)

**Resultant rectangle :** (2,8) (5,8)(2,5)(5,5)

**Test Case 14**:

One rectangle is above another rectangle

Rectangle-1 : (1,15) (12,9)

Rectangle 2 : (2,7) (9,2)

**Resultant rectangle :** No Overlap

**Test Case 15**:

One rectangle is exactly below another rectangle

Rectangle-1 : (1,8) (20,5)

Rectangle 2 : (4,5) (10,2)

**Resultant rectangle :** No Intersection

**Test Case 16**:

One rectangle is exactly on top of another rectangle

Rectangle-1 : (2,12) (10,2)

Rectangle 2 : (2,12) (10,2)

**Resultant rectangle :** (2,12)(10,12)(2,2)(10,2)

**Test Case 17**:

One rectangle is exactly inside with edge overlap

Rectangle-1 : (1,10) (9,2)

Rectangle 2 : (4,7) (9,5)

**Resultant rectangle :** (4,7)(9,7)(4,5) (9,5)