
PROGRAMMING ADVICES
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Mohammed Abu-Hadhoud
MBA, PMOC, PgMP®, PMP®, PMI-RMP®, CSE, ITILF, MCPD, MCSD
لا تنسى الاشتراك في قناتنا على اليوتيوب ومشاركة القناة مع اصدقائك
لتعم الفائدة للجميع وانقاذ الاف الناس من التشتت وجزاكم الله خيرا
لا تنسونا من دعائكم وادعو لوالدي بالرحمة
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مهم جداً
هذا الملف للمراجعة السريعة واخذ الملاحظات عليه فقط ،لانه يحتوي
على اقل من 20٪ مما يتم شرحه في الفيديوهات
الاستعجال والاعتماد عليه فقط سوف يجعلك تخسر كميه معلومات
وخبرات كثيره
يجب عليك مشاهدة فيديو الدرس كاملا
لاتنسى عمل لايك ومشاركة القناة لتعم الفائدة للجميع
لا تنسونا من دعائكم
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STOP
PROGRAMMING
ADVICES
LEARN THE
RIGHT WAY

Algorithms & Problem Solving
Level 6

Fix Violations
Sub-Sub Case 2.2.2 – Sibling’s near child is red

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Sub-Sub Case 2.2.2:
Sibling’s near child is red

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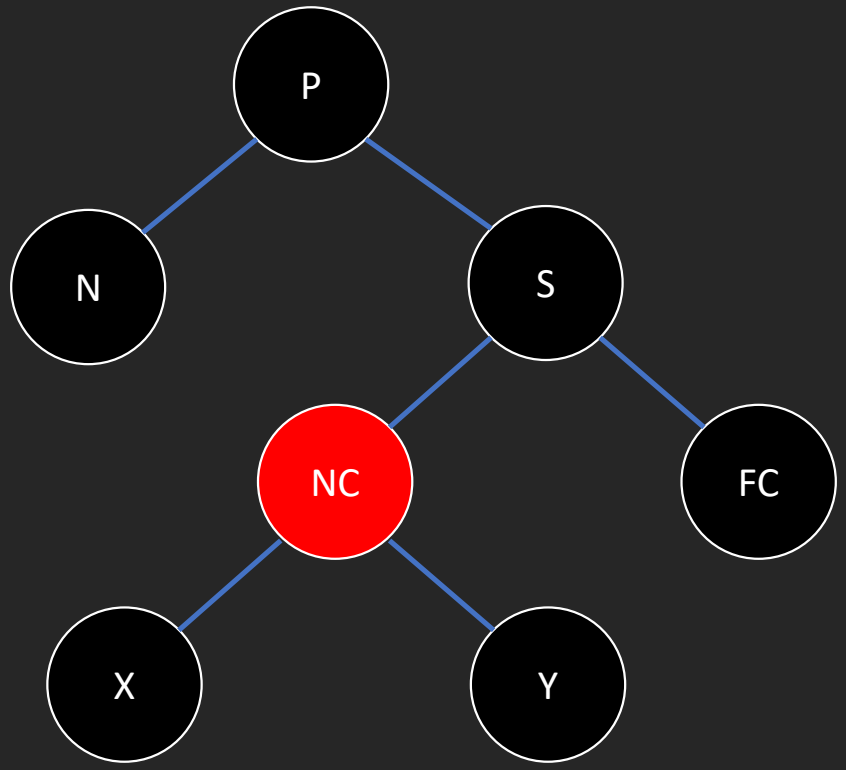
Sub-Sub Case 2.2.2: Sibling's near child is Red.

- P is the parent node .
- N is the node being deleted or its replacement.
- S is the sibling of N.
- NC an FC are children of S where NC (Near Child) and FC (Far Child).
- X and Y are children of NC.



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Sub-Sub Case 2.2.2: Sibling’s near child is Red.

Scenario: Sibling’s near child is Red.

Action:

1. When you delete the node, it becomes double black.
2. Perform a rotation on the sibling and its parent (right rotation if the sibling is a left child; left rotation if the sibling is a right child).
3. Swap the colors of the sibling and its near child.
4. Now, the sibling is red, turning this into Sub-sub-case 2.2.1.
5. Follow the actions in Sub-sub-case 2.2.1 to resolve the double black.

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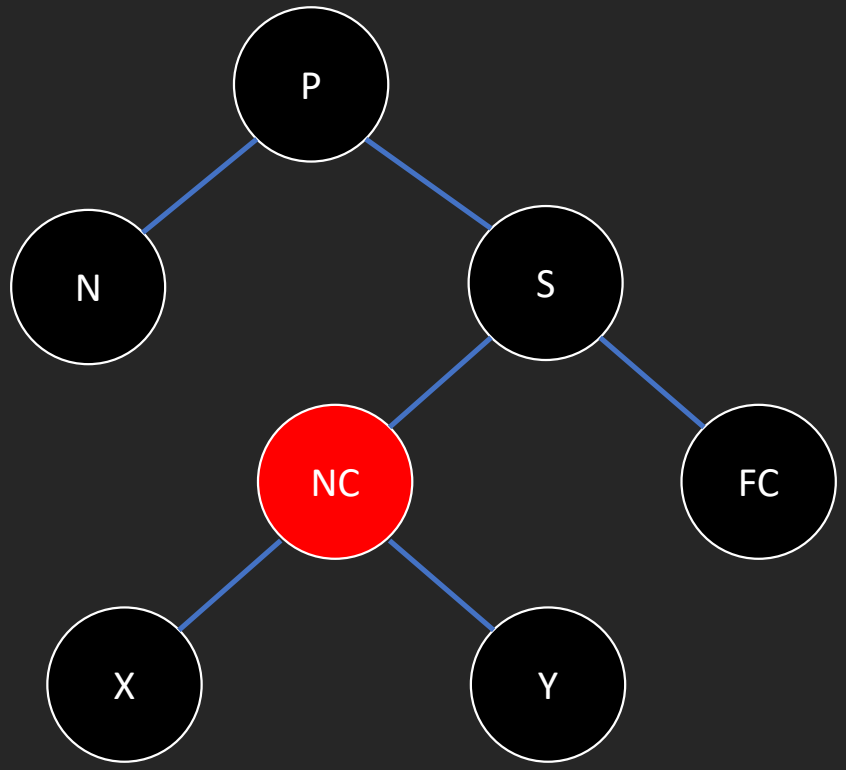

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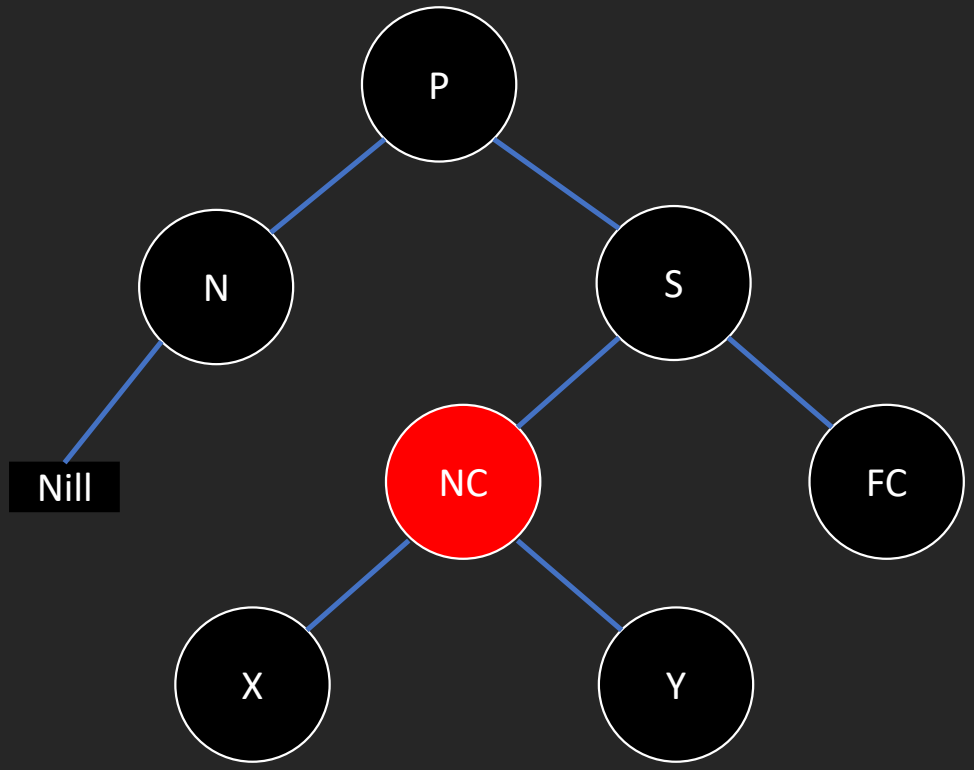
Sub-Sub Case 2.2.2: Sibling's near child is Red.

1- When you delete the node, it becomes double black.



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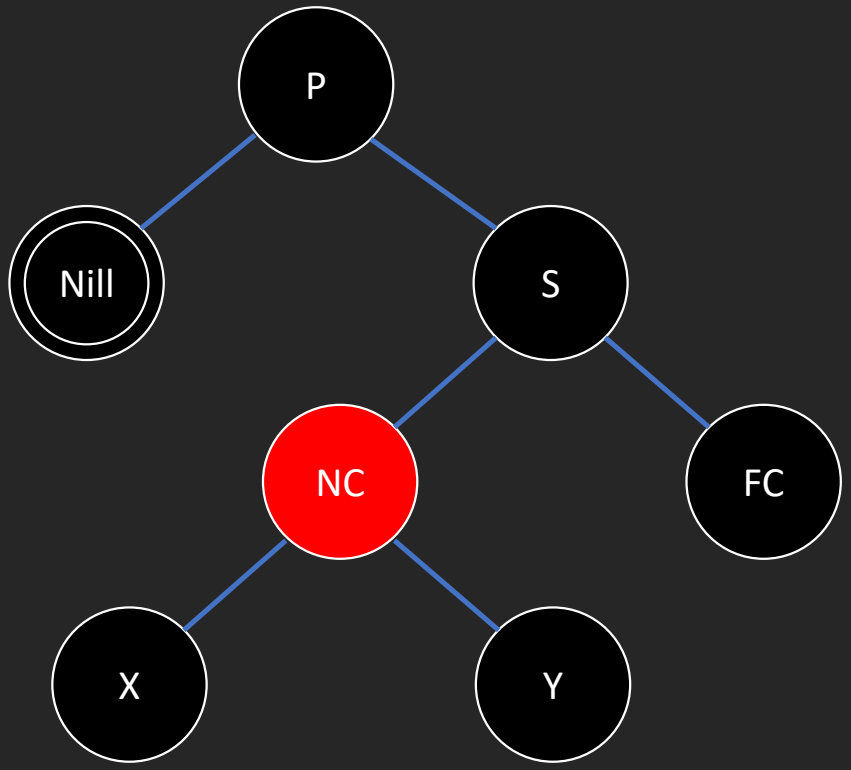

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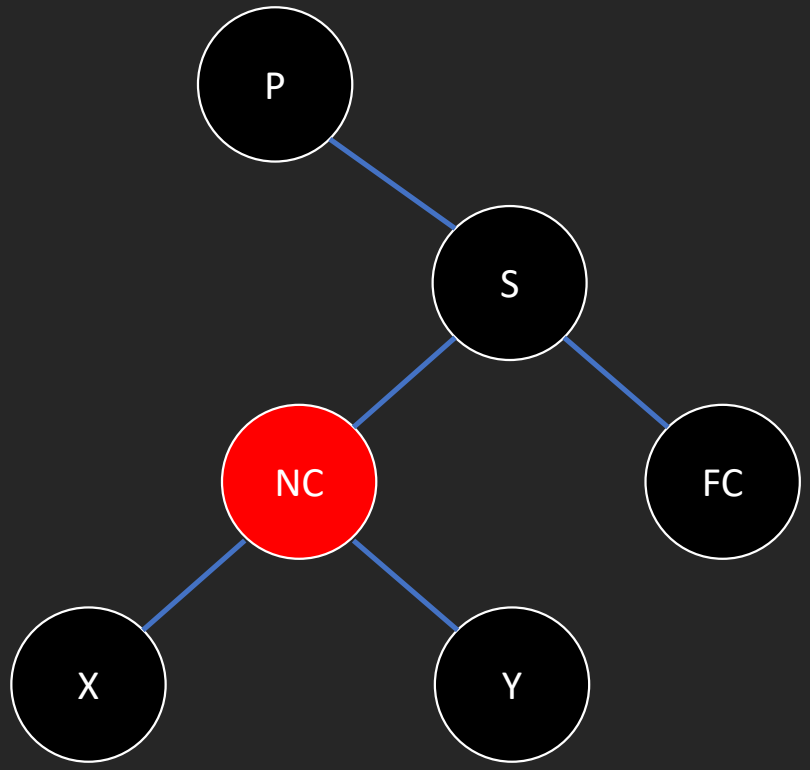
Sub-Sub Case 2.2.2: Sibling's near child is Red.

2- Perform a rotation on the sibling and its Parent.



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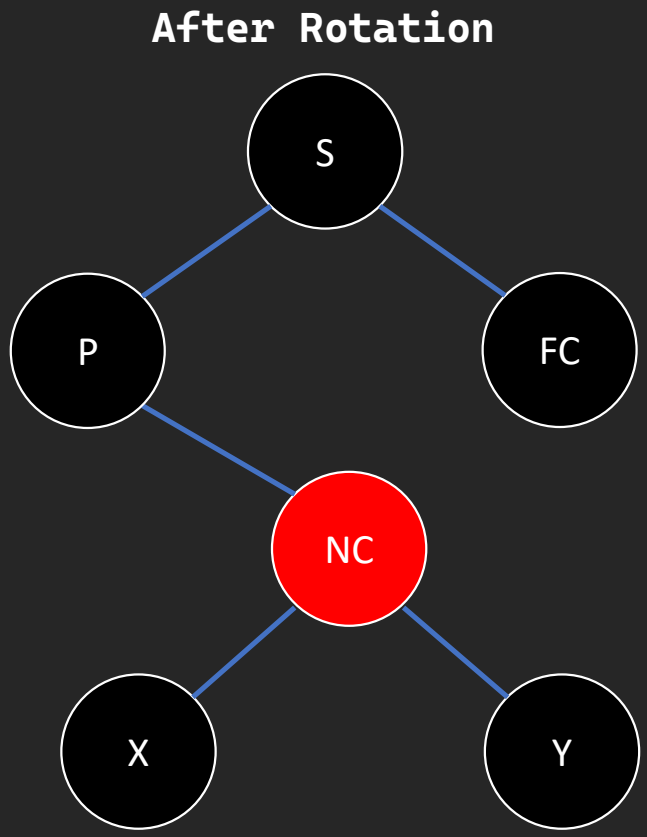
Sub-Sub Case 2.2.2: Sibling's near child is Red.

3- Swap the colors of the sibling and its near child.



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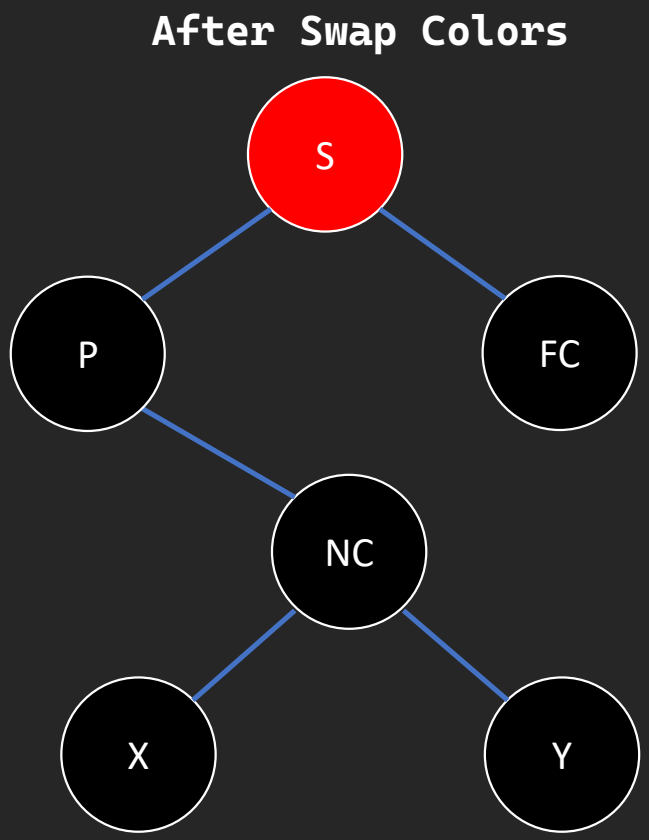

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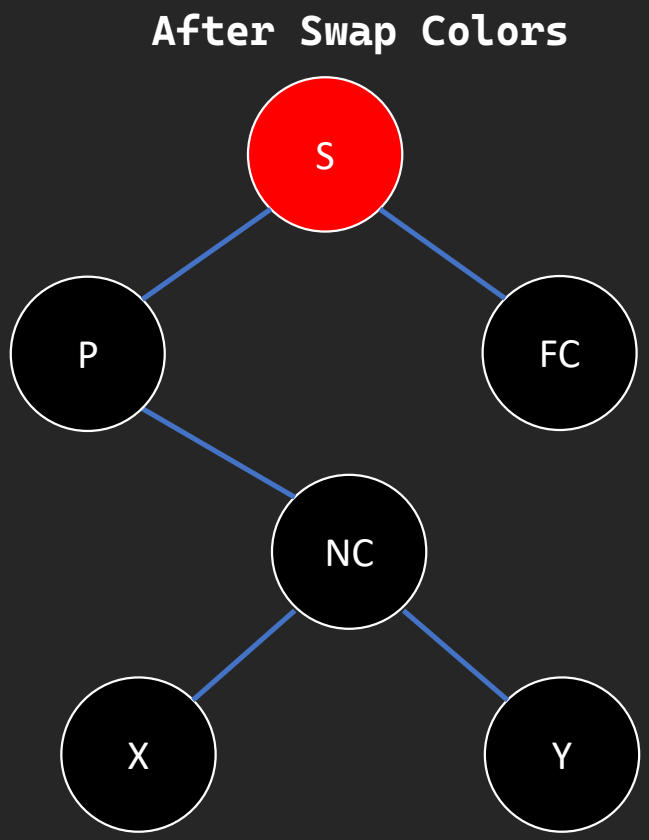
Sub-Sub Case 2.2.2: Sibling’s near child is Red.

Now, the sibling is red, turning this into Sub-sub-case 2.2.1.



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