Red-Black Tree Delete

- Node to delete has 0 or 1 child:
  - Double black (violates #1)

  ![Diagram of double black violation](img)

- Successor is child:

  ![Diagram of successor is child](img)

- Successor is grandchild:

  ![Diagram of successor is grandchild](img)

  - Red + black = black
    - black + black = double black
Fixing Doubly Black Nodes

while x is doubly black [was already black]

if

if

if

if

else

if

if

[and symmetric cases]